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BULLETIN

OF THE

PAN AMERICAN UNION

VOL. LII
JANUARY-JUNE
1921



174236
2/10/22

WASHINGTON, D. C., U. S. A. : : : : :
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INDEX TO THE
BULLETIN OF THE PAN AMERICAN UNION

Vol. LII

January to June, 1921

Nos. 1-6

[The Index to Illustrations will be found on p. XV.]

	Page.
Academy of Political and Social Science	145
Agriculture, foot-plow, in Peru	160
Agriculture in Tacna Province, Chile	1
Agriculture, notes 70, 170, 270, 376, 487, 600	600
Albes, Charles Edward	269
Alessandri, Arturo, President of Chile	109
American Political Science Association	145
American Republics and the League of Nations	58
Andes, across the, on mule back	117
ARGENTINA:	
Agricultural statistics	376
Arbitration treaty with Venezuela	398
Banks—	
Establishment of.....	84
General statement of..... 85, 284, 390, 503	503
Bond issue of Buenos Aires	186
Budget for 1921	186
Buenos Aires—	
Bond issue of.....	186
Customs revenues of.....	284
Vital statistics of.....	412
Cattle, statistics	70, 376
Coal, discovery of	70
Dairy industry in	376
Dock, floating, construction of	70
Exchange with United States	149
Export statistics, recent	588
Exports, increase in	488
Finances of	389
Flax, exports of	70, 377
Flour—	
Embargo, removal of, on exports.....	172
Exports of.....	71
Foreign trade for 1920	264
Foreign trade—	
In 1919.....	171
In 1920.....	377
Immigration statistics	101

ARGENTINA—Continued.	Page.
Industries in, statistics on.....	488
Jujuy—discovery of coal in.....	70
Linseed, crop estimate for 1920-21.....	487
Live stock, statistics.....	70
Maize, exports of.....	70, 377
Meat exports.....	377
Mendoza, export of wines from.....	488
Money in circulation.....	84
Navy of, in 1921.....	412
Oats—	
Crop estimate for 1920-21.....	487
Exports of.....	70, 600
Oil industry, comestible.....	376
Packing houses, plan for expropriation of.....	487
Petroleum production.....	71, 487
Port improvements at Rosario.....	629
Postal rates, new.....	171
Public works, appropriations for.....	389
Railroads—	
Southern, of.....	170
Valuation of.....	185
Revenues—	
Customs.....	186, 284
Customs of Buenos Aires.....	284
Reverberatory furnace, construction of.....	270
Rosario, port improvements at.....	629
Salta Province, financial status of.....	390
Schools.....	94, 192, 296, 405, 515, 623
Vital statistics.....	412
Wheat—	
Crop estimate for 1920-21.....	487
Exports of.....	70, 377, 600
Price regulation of.....	271
Wines, export of.....	488
Wool exports.....	171, 377
Argentine export statistics, recent.....	588
Aviation development in Ecuador.....	475
Bolivar, order of, bestowal of.....	541
Bolivar, unveiling of statue of.....	433
BOLIVIA:	
Commerce, foreign, of.....	488, 601
Loan, French, payment of.....	503
Press association, creation of.....	523
Railroads—	
Construction of.....	488, 524
Rates, increase in.....	488
Schools.....	516 623
Silver, production of.....	377
Tin Mines, Among Bolivia's Highest.....	217
Tin, production of.....	377
Book notes.....	208, 319, 428, 537, 642
Botanical Explorations in Ecuador.....	24

BRAZIL:	Page.
Amusement places, regulations governing.....	390
Automobiles, imports of.....	378
Bahia—	
Cacao shipments from.....	489
Port improvements at.....	172
Banks.....	85, 187, 285, 503, 617
Boundary, Peru-Brazilian, commission to mark.....	637
Budget for 1921.....	186
Cacao, exports of.....	489
Cement—	
Factory for manufacture of.....	602
Imports of.....	272
Cigarette factory, construction of.....	271
Commercial treaty with Belgium.....	292
Fortaleza, port improvements at.....	271, 489
Immigration statistics.....	198
Iron smelter, construction of.....	271
Live stock, imports of blooded.....	602
Lumber, exports of.....	489
Manufactures, value of, in 1918.....	71
Money, paper, issue of.....	503
Packing houses in São Paulo.....	489
Population—	
Of cities in State of São Paulo.....	630
Of Rio de Janeiro.....	414
Of the Republic, estimated.....	414
Port improvements—	
Bahia.....	172
Fortaleza.....	271, 489
Presidential election date.....	524
Railways—	
Construction of.....	378
Electrification of the Central.....	71, 271, 378
Rio de Janeiro—	
Population of.....	414
Rubber goods factory in.....	490
Rubber goods, manufacture of.....	490
Sanitary Propaganda in.....	364
Sanitary station on Isle of Flowers.....	102
Santos, movement of ships in port of.....	72
São Paulo—	
Manufactures in, value of.....	71
Packing houses in.....	489
Population of cities in State of.....	630
Schools.....	94, 193, 296, 406
Ships, movement of, in 1920.....	72
Steamship lines, new.....	71, 172
Steel mill, establishment of.....	602
Sugar—	
Exports of.....	71
Production of.....	489

BRAZIL—Continued.

	Page.
Tariff—	
Preferential reduction on American goods.....	272
Revision, proposed.....	271
Timber, exports of.....	489
Trade-mark decision.....	173
Wheat, production of.....	490
Calabash Tree, The	595
Central American Union, Federation of the	446
Cesar, Alejandro, Minister of Nicaragua	115
Champaca Tree, The	595

CHILE:

Agriculture in Tacna Province	1
Agriculture, statistics on.....	174
Banks, general statement of.....	85, 285, 504
Barley, production of.....	379
Bridges, construction of.....	415
Cabinet of.....	305
Coca, importation and sale of.....	628
Cocaine, importation and sale of.....	628
Conversion funds.....	505
Cost of living in.....	617
Explosives factory, establishment of.....	174
Exports, principal.....	379, 490
Finances, public.....	187
Fruit exports.....	602
Imports, principal.....	379, 490
Insurance companies, profits of.....	391
Irrigation dam, construction of.....	72
Krupp Co., concession to.....	491
Loan contracted in United States.....	505
Nitrates—	
Decrease in cost of manufacture.....	490
Exports of.....	173, 273, 378, 490
Production of.....	273, 490, 603
Radium in, discovery of.....	173
Oats, production of.....	379
Opium, importation and sale of.....	628
President, New, of	109
Primary instruction compulsory.....	82
Public works, regulations for contracts for.....	399
Radium, discovery of, in nitrate.....	173
Railroads—	
Construction of.....	272
Receipts of.....	505
Revenues—	
Customs, national.....	505
Customs of Valparaiso.....	286
Schools.....	95, 193, 297, 407, 624
Stamp tax.....	513
Steamship lines.....	72, 272
Strikes, labor, statistics on.....	631
Tariff, customs, change in.....	513
Telephone system, establishment of.....	72, 174

	Page.
CHILE—Continued.	
Tenement houses in.....	631
Tin, production of.....	379
Valparaiso, customs revenues of.....	286
Wheat, production of.....	379
Wireless telephone in.....	415
Colby, Secretary, Farewell to.....	111
COLOMBIA:	
Aviation in.....	273
Banks, general statement.....	86
Budget for 1921.....	392
Buenaventura, customhouse to be erected at.....	391
Canalization of the Magdalena River.....	73
Cattle, export of.....	491
Cauca—	
Population of.....	307
Revenues and expenditures of.....	506
Coffee, statistics on.....	381
Customhouse to be erected at Buenaventura.....	391
Envelope factory, establishment of.....	174
Expenditures of Department of Cauca.....	506
Gold, law regulating exportation of.....	401
Gold mines of.....	603
Magdalena River, canalization of.....	73
Money in circulation.....	188
Nitrates, exploitation of.....	380
Population—	
Of Department of Cauca.....	307
Of various cities.....	416
Railroads—	
Construction of.....	73, 174, 274, 380, 491
Recêipts.....	86
Revenues of Department of Cauca.....	506
Reyes, Gen. Rafael, Death of.....	482
Roads, construction and improvement of.....	392
Sanitation projects in.....	293
Scarfs, factory for.....	380
Schools.....	95, 194, 298, 407, 516, 624
Silver, law regulating exportation of.....	401
Silver mines of.....	603
Steamship lines.....	73, 273
Wireless stations.....	103, 175
Commerce, Foreign, of Argentina for 1920.....	264
Commerce—Latin American Foreign Trade in 1919.....	59
Commerce, notes.....	70, 170, 270, 376, 487, 600
Commerce, United States, with Latin America.....	266
Constitutional Tendencies in Latin America.....	244
Consular Reports, subject matter of.....	206, 317, 426, 535, 640
Corn, Wheat, Sugar, Rice, and Cotton in South America.....	339
COSTA RICA:	
Agriculture, committees on.....	74
Banks.....	618
Button factory, establishment of.....	492
Coal, exploitation of.....	381

COSTA RICA—Continued.	Page.
Coffee, exports of.....	381
Debt, internal.....	189
Eight-hour work day.....	381
Highways, national, in.....	175
Loan, national.....	87
Match factory, establishment of.....	492
Railroads—	
Conditions for freight shipment.....	605
Construction of.....	175, 492
Revenues—	
Customs.....	87
National.....	189
Roads, construction of.....	381
Schools.....	96, 408, 624
Workday, 8-hour.....	381
Cotton, corn, wheat, sugar, and rice in South America.....	339
Credit, public and private, in Latin America.....	254
CUBA:	
Aircraft considered as merchant marine.....	176
Banks.....	87, 288, 393, 507
Budget for 1921.....	287, 393
Commerce—	
With Great Britain.....	176
With United States.....	275, 382
Foreign for 1919-20.....	606
Debt, national.....	87
Earnings, tax on.....	191
Financial condition of.....	618
Foreign commerce for 1919-20.....	606
Great Britain, commerce with.....	176
Habana—	
Customs revenues of.....	392
Subway in.....	74
Vital statistics.....	104
Immigration statistics.....	176, 417
Insurance companies, tax on maritime.....	88
Labor, hours of, and wages.....	74
Money-order exchange with United States.....	307
Railroads, receipts of.....	287
Revenues—	
Customs of Habana.....	392
National.....	189, 506
Schools.....	96, 194, 408, 516, 625
Steamship lines.....	75, 175, 417
Subway in Habana.....	74
Sugar—	
Exportation of, free.....	382
Exportation of to United States.....	606
Facts on.....	382
Finance commission, creation of.....	493
Movement of.....	75, 606
Production of.....	176, 275, 493
Tax on earnings.....	191

	Page.
CUBA—Continued.	
Telephone service with United States inaugurated	434
Trade-mark office, international, home for	236
Vital statistics.....	104
Workmen, hours of work and wages.....	74
Cuban-American telephone service inaugurated	434
Dairying in various countries	459
DOMINICAN REPUBLIC:	
Agricultural products of.....	494
Banks.....	288, 507
Claims commission, work of.....	190
Debt—	
Municipal, of Santiago.....	619
National.....	88, 189
Dock taxes, rates of.....	402
Dominican claims commission, work of.....	190
Foreign trade in 1919.....	75, 275
Forests, law covering.....	401
Freight rates, reduction in.....	494
Highway, construction of.....	75
Minerals of.....	494
Population of.....	633
Port improvements at San Pedro de Macoris.....	393
Puerto Plata, customs revenues of.....	288
Resources of.....	494
Revenues—	
Customs, national.....	507
Customs, of Puerto Plata.....	288
Customs, of Santo Domingo.....	177, 393
Municipal, of San Pedro de Macoris.....	393
San Pedro de Macoris—	
Municipal revenues of.....	393
Port improvements at.....	393
Santiago, municipal debt of.....	619
Santo Domingo—	
Customs revenues of.....	177, 393
Schools.....	298, 409, 517, 625
Ships, movement of, in 1920.....	393
Steamship lines, new.....	382
Storage taxes, rates of.....	402
Tobacco, order regulating classification of.....	383
Economic notes.....	84, 185, 284, 389, 503, 617
ECUADOR:	
Aviation Development in	475
Banks.....	89, 394, 508
Botanical Explorations in	24
Cacao exports through Guayaquil.....	607
Expenditures of Guayaquil.....	88
Guayaquil—	
Cacao exports through.....	607
Revenues and expenditures of.....	88, 507
Importers, association of.....	607
Inheritance tax in.....	295

EQUADOR—Continued.	
Petroleum—	Page.
Deposits in.....	76
Law governing lands.....	402
Railways, construction of.....	276
Revenues—	
Import duties, 1915-1919.....	88
National.....	89
Of Guayaquil.....	88, 507
Roads, construction of.....	383
Schools.....	97, 195, 298, 518
Steamship lines.....	177, 276
Wireless stations.....	75, 383
Education, notes.....	94, 192, 296, 405, 515, 623
Education, Section of, Report.....	155
Exchange, Argentine and United States.....	149
Federation of the Central American Union.....	446
Financial notes.....	84, 185, 284, 389, 503, 617
Foreign Trade, Latin American, in 1919.....	59
Foreign Trade of Argentina for 1920.....	264
Future Development of the South American Oil Industry.....	484
General notes.....	101, 197, 303, 412, 523, 629
Gorgas, Gen., Memorial Bust of, for Panama.....	480
GUATEMALA:	
Banks.....	288
Cabinet, appointment of.....	105
Cattle, law governing imports and exports of.....	608
Chicle industry in.....	277
Coffee, export duty on.....	177
Constitution, proposed amendments to.....	201
Currency circulation, estimated.....	190
Export duty on coffee.....	177
Import duties, change in.....	177
Live stock, imports and exports of.....	178
Pineapple culture in.....	608
Revenue law, internal.....	295
Schools.....	97, 299, 519, 625
Stamp taxes.....	628
Sugar, repeal of export duty on.....	508
Tariff schedule, change in.....	177
Timber industry in.....	277
Wireless stations.....	634
HAITI:	
Expenditures—	
National.....	289
Of Port au Prince.....	89
Live stock, regulations governing imports of.....	608
Port au Prince, revenues and expenditures of.....	89
Public works, creation of directorate of.....	76
Revenues of Port au Prince.....	89
Schools.....	625
Hidalgo.....	12
History, International Congress of American.....	587

HONDURAS:	Page.
Banks, general statement of.....	89
Cigarette factory in.....	609
Expenditures, national.....	508
Liquor, revenue on.....	619
Membreño, Dr. Alberto, Death of.....	374
Population.....	529
Railway statistics.....	529
Railways, construction of.....	76
Revenues—	
Customs.....	619
National.....	508
Schools.....	195, 519
Silver coin, importation of.....	508
Tobacco, cultivation of Turkish.....	178
Vital statistics.....	529
Wireless stations.....	495
Hughes, Secretary, Chairman of Governing Board.....	372
Industries, notes.....	70, 170, 270, 376, 487, 600
International Congress of American History.....	587
International Trade Situation in South America.....	452
Latin-American Students in United States.....	367
League of Nations, The American Republics and the.....	58
League of Nations, Comment of President of United States on.....	438
League of Nations, Pan Americanism and the.....	133
Legislation, notes.....	82, 191, 293, 399, 513, 628
Lumber Markets and Timber Resources of Mexico.....	325
Membreño, Dr. Alberto, death of.....	374
MEXICO:	
Aviation in.....	530
Banks.....	509
Budget for 1921.....	620
Cabinet of.....	202
Cacao, production of.....	385
Cereals, production of.....	180
Chihuahua, irrigation works in.....	496
Commerce, foreign, for first half of 1919 and 1920.....	611
Cotton goods, reduction of tax on imported.....	497
Duties, export and import, applying to Lower California.....	76
Expenditures—	
national.....	90
of Federal District.....	289
Federal courts, organization of.....	83
Federal district, revenues and expenditures of.....	289
Foreign commerce for first half of 1919 and 1920.....	611
Free ports, creation of.....	77
Gold, production of.....	179
Guaymas, created a free port.....	77
Hidalgo.....	12
Irrigation works in Chihuahua.....	496
Lower California, export and import duties.....	76
Lumber Markets and Timber Resources of.....	325
Manzanillo, port improvements at.....	179

	Page.
MEXICO—Continued.	
Mexico City, world's fair to be held in.....	105
Minerals found in placer mines.....	496
Mining grants, résumé of movement of.....	496
Money, coinage of.....	89
Petroleum—	
Export tax on.....	77
Exports of.....	384
Statistics on.....	278
Population, distribution of, in.....	542
Port improvements at Manzanillo.....	179
Port Mexico, created a free port.....	77
Quinine, discovery of plant.....	384
Railroads, reconstruction of.....	289
Revenues—	
National.....	90
Of Federal district.....	289
Salina Cruz, created a free port.....	77
Schools.....	97, 196, 299, 409, 520, 625
Silver, production of.....	179
Steamship lines, new.....	277, 278
Sugar, removal of export duty on.....	620
Trade, foreign, for first half of 1919 and 1920.....	611
Wireless stations.....	420
World's fair to be held in Mexico City.....	105
Mining, tin, in Bolivia.....	217
Monroe Doctrine as a Regional understanding.....	139
NICARAGUA:	
Aviation in.....	279
Banks.....	509
Bluefields, exports through.....	612
Budget for fiscal year.....	620
Budget system, establishment of.....	509
Cabinet of.....	312
Cloth factory, establishment of.....	498
Corinto, exports to United States.....	498
Debt, national.....	90, 509
Exports—	
Through Bluefields.....	612
Through Corinto to United States.....	498
Forests, law governing.....	180
Imports, value of.....	77
Loan, new, to be obtained in New York.....	203
Minister of, reception of the.....	115
Population of.....	203
Railroads, construction of.....	180
Rubber, abolition of export tax on.....	90
Schools.....	98, 300, 520, 626
Steamship lines.....	498
Sugar, production and exportation of.....	497
Oil Entente, An.....	560
Oil Fields, Peru and its.....	590
Oil industry, future development of the South American.....	484

	Page.
PANAMA:	
Agriculture, statistics.....	181
Banana cultivation in.....	280
Banks.....	90
Export duties.....	514
Gorgas, Gen., Memorial Bust of, for	480
Highways, construction of.....	279
Imports in 1919.....	181
Maritime quarantine economics.....	620
President, inauguration of.....	106
Quarantine economics, maritime.....	620
Road construction in.....	636
Sacks, import duty on.....	510
Schools.....	98, 521
Tariff, changes in.....	514
Pan American Relations	133
Pan Americanism and the League of Nations	133
PARAGUAY:	
Asunción, vital statistics of.....	421
Banks, general statement.....	90
Budget for 1920-21.....	91
Cattle, statistics.....	181
Central Railway, statistics on.....	612
Commerce, foreign.....	181, 280
Cotton, cultivation of.....	181
Custom department, reorganization of.....	510
Exports in 1920.....	499
Foreign trade in 1920.....	499
Grape, cultivation of.....	181
Houses for workmen in.....	531
Immigration of Mormons.....	421
Import taxes.....	280
Imports in 1920.....	499
Inheritance-tax law.....	402
Marble in.....	613
Postal convention with Uruguay.....	81
President, program of the.....	106
Railway, Paraguay Central, statistics on.....	612
Revenue department, reorganization of.....	510
Revenues, internal.....	290
Schools.....	99, 627
Steamship lines.....	181
Sugar production.....	78
Tariff, changes in.....	280
Tea, cultivation of.....	182, 499
Vital statistics.....	421
Wheat, cultivation of.....	181
PERU:	
Workmen's houses in.....	531
Agriculture in	160
Alcohol, taxes on.....	396, 514
Andes, Across the, on Mule Back	117

PERU—Continued.

	Page.
Banks—	
General statement of.....	290
National, formation of.....	510
Boundary, Peru-Brazilian, commission to mark.....	637
Callao, municipal improvements in.....	281
Cattle, importation of.....	500
Cereals, movement of.....	387
Child-labor law, amendment to.....	628
Coal, exploitation of.....	500
Cotton exports.....	79
Educational convention with Uruguay.....	81
Financial status of Lima.....	395
Foreign trade in 1919 compared with 1918.....	78
Horses, importation of.....	500
Hydraulic potentiality of.....	613
Lima—	
Financial status of.....	395
Municipal improvements in.....	281
Loan, authorization to contract.....	510
Matarani, Bay of, port in.....	281
Money in circulation.....	291, 395
Oil Fields of.....	590
Port, new, in Bay of Matarani.....	281
Railways, construction of.....	183
Schools.....	99, 300, 410, 521
Sheep, importation of.....	500
Steamship lines, new.....	182
Sugar industry in.....	386
Tariff, new.....	182
Vanadium, removal of tax on.....	629
Vicuñas, decree protecting.....	191
Water-power resources of.....	613
Wireless systems Government monopoly.....	514
Wool growing in.....	613
Population, Distribution of, in Mexico.....	542
Postal Convention in Force.....	263
Postal Convention, International.....	146
Public and Private Credit in Latin America.....	254
Public instruction notes.....	94, 192, 296, 405, 515, 623
Reyes, Gen. Rafael, Death of.....	482
Rice, Corn, Wheat, Sugar, and Cotton in South America.....	339
SALVADOR:	
Bank notes, American, importation of.....	396
Banks, general statement of.....	511
Budget for 1920-21.....	92
Commercial Travelers' Convention with United States.....	81
Debt, national.....	511
Expenditures, national, in 1920.....	511
Gutiérrez, Gen. Rafael, death of.....	533
Hat factory, establishment of.....	501
Hides, export duty on.....	282
Imports, prohibition on.....	183, 387

	Page:
SALVADOR—Continued.	
Income tax, collection of.....	92
Port improvements at Triunfo.....	183
Railways, construction of.....	533
Revenues—	
Customs for 1920.....	621
National, in 1920.....	511
San Salvador, improvements in.....	107
Schools.....	99, 410, 522, 627
Silk industry to be established in.....	614
Telegraph system, statistics.....	79
Trade-marks, registration of.....	515
Triunfo, port improvements at.....	183
Wheat, cultivation of.....	282
Wireless stations.....	423
Sanitary Propaganda in Brazil.....	364
Students, Latin American, in United States.....	367
Sugar, Corn, Wheat, Rice, and Cotton in South America.....	339
Tamarind, the, as a Fruit Tree.....	167
Telephone Service Between Cuba and United States Inaugurated.....	434
Timber Resources and Lumber Markets of Mexico.....	325
Tin mines, Among Bolivia's Highest.....	217
Trade, Foreign, of Argentina for 1920.....	264
Trade, International, Situation in South America.....	452
Trade, Latin American Foreign, in 1919.....	59
Trade, United States, with Latin America.....	266
Trade-mark Office, International, Home for.....	236
Treaties, notes.....	81, 292, 398
Trees, Tropical, Two Useful.....	595
Tropical American Woods for Markets of United States.....	567
UNITED STATES:	
Arbitration treaty, commercial, with Venezuela.....	80
Colby, Secretary, Farewell to.....	111
Commerce with Cuba.....	275, 383
Commerce with Latin America.....	266
Commercial Travelers' Convention with Salvador.....	81
Exchange with Argentina.....	149
Latin American Students in.....	367
Money-order exchange with Cuba.....	307
Telephone Service with Cuba Inaugurated.....	434
Trade with Latin America.....	266
Woods, Tropical American, for Markets of.....	567
URUGUAY:	
Accident law, workman's, provisions of.....	403
Agricultural condition in 1919-20.....	79
Alcohol, draft of law against.....	424
Banks, general statement of.....	93, 291, 512
Barley, exports of.....	388
Coca, prohibition on imports and exports of.....	79
Educational convention with Peru.....	81
Exports, principal.....	387
Finances, national.....	511
Flour, exports of.....	283, 388

URUGUAY—Continued.

	Page.
Foreign trade—	
First half 1920.....	79
For 1920.....	615
League of Nations, delegates to Assembly.....	315
Linseed, crop estimate for 1920-21.....	501
Live stock, regulations for imports of.....	614
Loan of Department of Montevideo.....	92
Maize, exports of.....	388
Meat, exports of.....	282
Montevideo—	
Loan of Department of.....	92
Vital statistics.....	107, 315
Oats, crop estimate for 1920-21.....	501
Opium, prohibition on imports and exports of.....	79
Postal convention with Paraguay.....	81
Railroads, receipts of.....	397
Revenues—	
Customs.....	291
National.....	93
Roads, construction of.....	424
Schools.....	99, 196, 301, 411, 522, 627
Steamship lines.....	80, 388
Stock raising, statistics on.....	282
Sugar, imports of.....	184
Sulphate of copper, production of.....	184
Superphosphates, manufacture of.....	184
Trade—	
Export.....	387
Foreign, first half 1920.....	79
Foreign, for 1920.....	615
Vital statistics.....	107, 315
Wheat—	
Crop estimate for 1920-21.....	501
Decree permitting exportation of.....	615
Exports of.....	283
Wool—	
Exports of.....	184, 282
Tariff on.....	622
Workman's accident law, provisions of.....	403
VENEZUELA:	
Arbitration treaty, commercial, with United States.....	80
Arbitration treaty with Argentina.....	398
Banks, general statement of.....	93
Coal, production of.....	80
Coffee—	
Exports from Maracaibo.....	502
Statistics.....	185
Cotton, production of.....	502
Developments at Maracaibo.....	616
Gold, exports of, in 1919.....	80
Live stock, number of.....	80
Manifests, import, decree governing.....	184
Maracaibo, coffee exports from.....	502

VENEZUELA—Continued.	Page.
Maracaibo, developments at.....	616
Paints, importation of.....	616
Petroleum—	
Investments in.....	513
Law regulating exploitation of.....	639
Statistics on.....	80, 185, 283
Phonographs, importation of.....	617
Pianos, importation of.....	617
Population of principal cities.....	534
Railways, statistics on.....	534
Schools.....	100, 196, 302, 411, 627
Tariff changes.....	515
Telegraph rates in.....	283
Telephones—	
Rates.....	93
Tax on public.....	93
Varnishes, importation of.....	616
Wireless stations.....	425, 534
Wheat, corn, sugar, rice, and cotton in South America.....	339
Woman's suffrage in the Americas.....	35
Woods, tropical American, for markets of United States.....	567

INDEX TO ILLUSTRATIONS.

	Page.
Alessandri, Arturo, President of Chile.....	Frontispiece, February.
Andes, terraced slopes in the.....	163
Andes, top of the.....	121
Anthony, Miss Susan B.....	37
ARGENTINA:	
Bahia Blanca, grain elevators at.....	349
Colon Theatre and Lavallo Monument.....	Cover, May.
Corn shelling.....	346
Grain elevators at Bahia Blanca.....	349
Lavallo Monument and Colon Theatre.....	Cover, May.
Rice plant in.....	355
Rice, sacks of.....	355
Rice thrashing in.....	355
Wheat at Nicolas Levalle.....	349
Basket made of a calabash tree.....	599
Bolivar, medal commemorating unveiling of statue of.....	434
Bolivar, statue of, in New York.....	Frontispiece, May.
BOLIVIA:	
Caracoles mill.....	234
Illimani peak.....	219
Jachacunocollo, or great snow mountain.....	225
La Paz Valley, picturesque point on trail down the.....	218
Laramcota valley.....	224
Monte Blanco mill.....	229

	Page.
BOLIVIA—Continued.	
Quimsa Cruz range, eastern side of.....	233
Ridges between glaciers carrying tin ore.....	227
Tarujhumana mill at Tanapaca.....	221
Tin mine in its infancy.....	221
Tin ore, bags of, awaiting shipment.....	231
Trail from the Araca mill to mine.....	222
BRAZIL:	
Botafogo, Bay of, Rio de Janeiro, at nightfall.....	Frontispiece, January.
Corn, drying, on a Brazilian plantation.....	346
Corn gathering in State of São Paulo.....	343
Cornfield in, near-by view.....	341
Cotton picking at agricultural school in.....	362
Forest giants, specimens of.....	569
Forests of Espirito Santo, work in the.....	579
Logging in the forests of Parana pine.....	582
Lumber yard at Santa Catharina.....	585
Pine, Parana, forest of.....	571
Rice culture in.....	353
Rio de Janeiro, Bay of Botafogo at nightfall.....	Frontispiece, January.
Sawmill in.....	583
Trees of Santa Catharina.....	573
Butter, factory, production and storage, chart.....	463
Butter production and exports, chart.....	461
Caesalpinia Sp. bark, used for tanning purposes.....	29
Calabash tree, the.....	598
Calabash tree, basket made of a.....	599
Catt, Mrs. Carrie Chapman.....	39
Cedar, Spanish, in full maturity.....	329
Century plant abloom in Ecuadorean mountains.....	31
Cesar, Dr. Alejandro, Minister from Nicaragua to the United States.....	116
Champaca tree, the.....	596
CHILE:	
Alessandri, Arturo, President of.....	Frontispiece, February.
Alfalfa fields, near Tacna City.....	5
Crusher, primitive, a.....	9
Fig tree, a Tacna.....	9
Lake of the Incas.....	Cover, January.
Moneda, La, reception hall in.....	110
Moneda, La, residence of President of Chile.....	110
Potato field in Para, near Tacna City.....	5
Tacna in its Valley, viewed from Arunta.....	3
Tacna Valley.....	3
Chimborazo, Mount, Ecuador.....	477
Cinchona bark prepared for shipping.....	29
COLOMBIA:	
Mahogany, specimen of.....	577
Reyes, Gen. Rafael.....	483
Transporting boards in forests of.....	577
Corn area, map showing.....	340
Corn gathering in Brazil.....	343
Corn shelling in Argentina.....	346

	Page.
COSTA RICA:	
Tamarind trees, plantation of.....	168
Cotton picking in Brazil.....	362
Cotton production, map showing.....	360
Creamery, modern, at Grove City, Pa.....	465
Crusher, a primitive.....	9
CUBA:	
Centro de Dependientes, the.....	242
President Menocal talking over telephone to President Harding.....	441
Telephone, Cuban-American, opening of.....	441
Trade-mark office, location selected for.....	237
Trade-mark office, location selected for.....	238
Trade-mark office, third view of location of.....	240
Datura plant, the.....	27
ECUADOR:	
Caesalpinia Sp. bark, used for tanning purposes.....	29
Catamayo Valley, hills bordering the.....	25
Century plant abloom.....	31
Cinchona bark prepared for shipping.....	29
Datura plant, the.....	27
Fiber for making Panama hats.....	25
Gunnera, species of.....	27
Hills bordering the Catamayo Valley.....	25
Ivory palm, the.....	31
Mount Chimborazo.....	477
Quito, view of.....	479
Fig tree, a Tacna.....	9
Forest giants, specimens of.....	569
Gorgas, Surg. Gen., bust of.....	481
Governing board of Pan American Union.....	112
Grain elevators at Bahia Blanca, Argentina.....	349
Gunnera, species of.....	27
Harding, Warren G., President of United States.....	Frontispiece, March.
Hats, Panama, fiber for making.....	25
Hauling boards in forests of Colombia.....	577
Hidalgo y Gallaga, Miguel Gregorio Antonio Ignacio.....	13
HONDURAS:	
Membreño, Dr. Alberto.....	375
House, typical, of Andean towns.....	131
Hughes, Charles Evans, Secretary of State of the United States.....	373
Illimani Peak.....	219
Ivory palm, the.....	31
Jachacunocollo, or great snow mountain, Bolivia.....	225
Laramcota valley, Bolivia.....	224
Llama train.....	121
Logging in the forests of Parana pine.....	582
Lumber yard in Brazil.....	585
Mahogany log loaded upon its cart.....	335
Mahogany logs prepared for market.....	333
Mahogany, specimen of, in Colombia.....	577
Mahogany tree in Mexico.....	331
Medal commemorating unveiling of statue of Bolivar.....	434
Membreño, Dr. Alberto.....	375

MEXICO:	Page.
Cedar, Spanish, in full maturity.....	329
Chihuahua, view of.....	557
Cities, grouping of, map showing.....	545
Forest in.....	327
Great tree, the, near Oaxaca.....	Frontispiece, April
Guadalajara, general view of.....	552
Guanajuato, general view of.....	553
Guaymas Bay and city.....	559
Hauling logs to market.....	335
Hermosillo, general view of.....	555
Hidalgo y Gallaga, Miguel Gregorio Antonio Ignacio.....	13
Mahogany log loaded upon its cart.....	335
Mahogany logs prepared for market.....	333
Mahogany tree in the forest.....	331
Mexico City, Avenida Cinco de Mayo.....	547
Morelia, view of.....	554
Oaxaca, the great tree near.....	Frontispiece, April.
Population, rural, map showing distribution of.....	543
Spanish cedar in full maturity.....	329
Our Lady of Guadalupe banner.....	17
NICARAGUA:	
Cesar, Dr. Alejandro, minister to United States.....	116
Lake Managua.....	Cover, March.
Pan American Union, governing board of.....	112
Park, Mrs. Maud Wood.....	39
Paul, Miss Alice.....	43
Pennsylvania University, entrance of.....	371
PERU:	
Andes, top of the, near Huancavelica.....	121
Bella Vista, home of Mr. Gastelumendi.....	123
Botija Puncu mine, the.....	129
Brocac, south end of the Grand Farallon.....	127
Grand Farallon, south end of the.....	127
House, typical, of Andean towns.....	131
Huancavelica, Matriz Cathedral.....	125
Llama train.....	121
Mantaro Valley below Izcuchaca.....	119
Mantaro Valley, thrashing barley in.....	118
Mantaro Valley, views in the.....	118
Matriz Cathedral, Huancavelica.....	125
Petroleum activities of Lobitos.....	591
Quespesisa children.....	131
Reduction works at Santa Ines.....	129
Santa Ines, reduction works at.....	129
Sea front, near Lima.....	Cover, April.
Sugar cane, transferring from cars to factory.....	359
Sugar mill in.....	359
Tacla, the, as used by Indians in the Andes.....	161
Terraced slopes in the Andes.....	163
Terraced slopes near Salamanca.....	165
Petroleum activities of Lobitos, Peru.....	591
Pine, Parana, forest of.....	571

	Page.
Pine, Parana, logging in the forests of.....	582
Quespesisa children in Peru.....	131
Quimsa Cruz range, Bolivia, eastern side of.....	233
Reyes, Gen. Rafael.....	483
Rice culture in Brazil.....	353
Rice factory in Argentina.....	355
Rice production, map showing.....	351
Rice, sacks of.....	355
Rice thrashing in Argentina.....	355
Sawmill in Brazil.....	58
Shaw, Dr. Anna Howard.....	43
South American trees.....	575
Stanton, Mrs. Elizabeth Cady.....	37
Sugar cane, transferring from cars to factory.....	359
Sugar mill in Peru.....	359
Sugar production, map showing.....	357
Taclla, the, as used by Indians in the Andes.....	161
Tamarind trees, plantation of, in Costa Rica.....	168
Telephone lines, Cuban-American, map.....	443
Terraced slopes in the Andes.....	163
Terraced slopes near Salamanca, Peru.....	165
Tin mine in its infancy.....	221
Tin ore, bags of, awaiting shipment.....	231
Trade-mark office, location selected for, Habana.....	237, 238, 240
Trees of Santa Catharina, Brazil.....	573
Trees, South American.....	575
UNITED STATES:	
Bolivar, statue of, in New York.....	Frontispiece, May.
Creamery, modern, at Grove City, Pa.....	465
Dr. Borges, of Venezuela, honors memory of Henry Clay.....	Frontispiece, June.
Gorgas, Surg. Gen., bust of.....	481
Harding, Warren G., President.....	Frontispiece, March.
Hughes, Charles Evans, Secretary of State.....	373
Pennsylvania University, entrance of.....	371
President Harding delivering first message to Congress.....	435
Telephone service to Cuba, inauguration of.....	439
URUGUAY:	
Montevideo, Plaza Cagancha.....	Cover, June.
VENEZUELA:	
Caracas.....	Cover, February.
Wheat area, map showing.....	347
Wheat in Argentina.....	349



TABLE OF CONTENTS

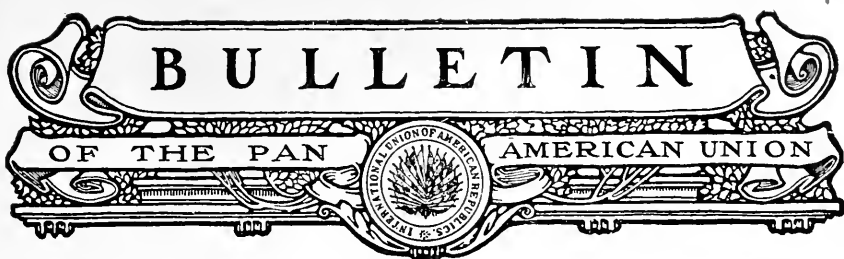
	Page.
Agriculture in Tacna Province, Chile.....	1
Hidalgo.....	12
Botanical Explorations in Ecuador.....	24
Woman's Suffrage in the Americas.....	35
Medical Conditions in South America.....	48
The American Republics and the League of Nations.....	58
Latin American Foreign Trade in 1919—General Survey.....	59
Agriculture, Industry, and Commerce.....	70
Argentina—Brazil—Chile—Colombia—Costa Rica—Cuba—Dominican Republic—Ecuador— Haiti—Honduras—Mexico—Nicaragua—Panama—Paraguay—Peru—Salvador—Uruguay— Venezuela.	
International Treaties.....	81
Salvador—United States—Uruguay—Paraguay—Uruguay—Peru.	
Legislation.....	82
Chile—Ecuador—Mexico—Uruguay.	
Economic and Financial Affairs.....	84
Argentina—Brazil—Chile—Colombia—Costa Rica—Cuba—Dominican Republic—Ecuador— Guatemala—Haiti—Honduras—Mexico—Nicaragua—Panama—Paraguay—Peru—Salva- dor—Uruguay—Venezuela.	
Public Instruction and Education.....	94
Argentina—Brazil—Chile—Colombia—Costa Rica—Cuba—Ecuador—Guatemala—Mexico— Nicaragua—Panama—Paraguay—Peru—Salvador—Uruguay—Venezuela.	
General Notes.....	101
Argentina—Brazil—Chile—Colombia—Costa Rica—Cuba—Dominican Republic—Ecuador— Guatemala—Haiti—Honduras—Mexico—Nicaragua—Panama—Paraguay—Peru—Salva- dor—Uruguay—Venezuela.	





Photograph by Carlos Britous

BAY OF BOTAFOGO, RIO DE JANEIRO, AT NIGHTFALL.



VOL. LII

JANUARY, 1921

No. 1

AGRICULTURE IN TACNA PROVINCE, CHILE ∴ ∴

By C. R. CAMERON, *American Consul, Tacna, Chile.*

IN accordance with figures given in the Statistical Synopsis of Chile for 1918, there were in that year 1,158 agricultural properties in Tacna Province, aggregating a total of 203,571 hectares.

Of this area, 184,141 hectares are classed as unirrigated and 19,430 as irrigated. In a Province having practically no rainfall the irrigated holdings are obviously the most significant from the point of view of production. There is, indeed, considerable precipitation in that portion of the Province embraced in the high Andes, but the conditions of climate and temperature there permit agriculture on an exceedingly limited scale.

Apart from a few river valleys which bring water from the rains and snows of the Andes, the coastal plain which in this latitude stretches from the Andean foothills westward to the Pacific, is a dry, sandy desert. There is practically no vegetation of any kind. In some favored areas small cacti the size of a cucumber are found. There are two varieties. One variety, known locally as *sohas*, bears a small red fruit the size of a plum which is excellent eating when one is hot and thirsty. The other variety, called *espinas*, does not bear edible fruit. Another desert growth is a small coarse grass about 6 inches high, the leaves resembling those of a young pineapple. It is known as *siemore viva*, or "live forever." Both the cacti and this grass seem, indeed, to live forever. They grow during the winter months when there is an occasional night mist, but when the moisture fails they simply stop growing and wait for another year. Furthermore, these desert plants sustain a continual fight for existence with the sand. The latter is always gently drifting and invariably gathers

around any stationary object like a cactus or tuft of grass, so that the growth must climb on top of the drift, or be smothered. Consequently, these growths are usually marked by a small knoll.

As one stands on the hills surrounding the valley of Tacna, Tacna city appears as a lighter area in a stretch of green which extends up and down the valley. On all sides is a sea of yellow sand. Here and there the green stretch broadens out in rectangular form where an alfalfa field or zapallo patch extends farther into the desert, or a field gleams in the sun with the reflection of the irrigation water lying on the surface. Several varieties of trees stand out prominently, chief among them being the eucalyptus, a species of fir tree, and a tree resembling the acacia, known locally as vilca. The fir and the eucalyptus are tall and stately, while the vilca is a wide spreading tree which furnishes a thick shade. A variety of the eucalyptus with the trunk dividing into numerous branches close to the ground seems to be peculiar to Tacna, since no description of the same can be found in any of the books on the subject. It is locally known as the hembra or "female" eucalyptus. Another beautiful shade tree which characterizes the landscape is the molle, a variety of pepper tree. It has a delicately formed leaf and its branches droop like those of a weeping willow. The scientific name seems to be *Schinus molle*.

The Statistical Synopsis gives the following figures with reference to the division into general classes of the area under cultivation in Tacna Province during 1918, compared with the corresponding figures for all Chile:

	Tacna hectares.	Chile hectares.	Per cent in Tacna.
Vines and trees.....	261	141,398	0.18
Grass and pastures.....	5,568	513,040	1.08
Other crops.....	1,204	743,627	.16
Total.....	7,033	1,398,065	.53

The area planted to various crops and the annual production for the year 1918 is given below:

	Area, Tacna hectares.	Production, Tacna.	Unit of measure.	Production, Chile.	Per cent production in Tacna.
Maize.....	736	5,506	Metric quintal.....	367,236	1.49
Beans.....	20	149	.....do.....	143,828	.10
Potatoes.....	285	3,688	.....do.....	2,623,587	.14
Alfalfa (hay).....	626	38,508	.....do.....	2,522,323	1.52
Grapes.....	66	355	.....do.....	37,630	.94
Olives.....		1,708	.....do.....	6,402	26.67
Oranges.....		638	Thousand.....	26,915	2.37
Lemons.....		58	.....do.....	8,033	.72
Dried pears.....		16	Metric quintals.....	13,241	.12
Dried quinces.....		32	.....do.....	9,135	.35
Dried peaches.....		219	.....do.....	19,089	1.14
Dried figs.....		131	.....do.....	10,066	1.30



THE TACNA VALLEY.

Looking from Caliente, 15 miles above Tacna City, this shows the upper cultivations with the foothills of the Andes on either side.



TACNA IN ITS VALLEY.

Viewed from the heights of Arunta. Note the sand drift in the foreground and the city in the upper center.

To properly appreciate the above comparisons with all Chile, as well as those which will be given later, it is advisable to take into consideration the following general comparisons of area and populations, especially the latter:

	Tacna Province.	Chile.	Per cent in Tacna.
Area in square kilometers.....	22,306	750,572	2.971
Population in 1918.....	39,357	3,952,475	.997

It will thus be seen that on the basis of area, Tacna Province should produce approximately 3 per cent of the total production of Chile; and that on the basis of population, which is a fairer basis, it should produce approximately 1 per cent. Unfortunately, the Chilean statistics do not reduce the agricultural products to money value, and consequently, we are without a measure for the comparison of the total agricultural product of Tacna Province with the total similar product of Chile. We can compare the production of similar articles only.

The coastal plain which slopes from the Andes mountains to the Pacific, is cut by numerous ravines which extend in general from east to west. Through a very few of these sufficient water comes to make cultivation possible. The fertile valleys of Tacna Province, beginning at the north are the Sama, the Caplina (or Tacna), the Lluta, the Azapa, and the Vitor. Of these five, the Caplina and the Azapa contribute the most to the prosperity of Province. The small mountain streams which fertilize these valleys originate in the scanty rains and snows of the western slopes of the Andes, and owing to the percolation and evaporation, their volume becomes progressively less as they reach lower altitudes and the fertile but torrid valleys of the coast. Irrigation requires level land. The utilization of these streams for irrigation therefore begins where they first reach level ground in the warm valleys. The land nearer the coast would perhaps be more fertile, but the beds of the streams are, in their lower courses, built up of coarse alluvial gravel and sand, and are exceedingly porous. The climate is rainless with a high percentage of cloudless days, and consequently the loss of water by evaporation and infiltration in the gravity bed makes it advantageous to use the water as near the foothills as possible. It has been calculated that owing to the causes mentioned, in a distance of 14 miles from Caliente to the city of Tacna, the Caplina River loses more than one-half of its flow.

The available current of the Caplina (or Tacna) River which flows through the valley of Tacna, averages about a cubic meter (264 gallons) per second, and this suffices to irrigate about 2,000 hectares of



A POTATO FIELD IN PARA.

Showing the method of irrigating near Tacna City. Young potatoes can be seen along the edges of the irrigation.



ALFAFA FIELDS.

These fields on the Uchusuma irrigation canal, to the south of Tacna City, are called "streets." A series of these inclosed by small banks for facility in irrigation is called a "table."

land, but the current is entirely used up a few miles west of Tacna city and more than 20 miles from the sea. The valley of the Caplina is noted for its maize, potatoes, capsicum, fruit, and flowers. It is the most healthful of the five valleys, and ever since colonial days it has been the chosen residence of high governmental authorities.

The current of the Azapa River, the valley of which forms the hinterland of the city of Arica, is less than one-half that of the Caplina, and is sufficient to irrigate but 800 hectares. Near the city of Arica where the Azapa channel reaches the sea, however, the ground is impregnated with fresh water which rises in wells to within 8 or 10 feet of the surface. Some of this water is utilized for surface irrigation by use of windmill pumps, and also by the construction of ditches into which the water seeps, flowing out on the surface at a lower level. The Azapa valley is noted for its fruits, especially its oranges, lemons, bananas, and olives. Considerable malaria is there prevalent, being known as *terciana*.

The Lluta River flows through the Department of Arica, its valley lying to the north of, and roughly parallel to that of the Azapa. Its channel reaches the sea at Chacalluta some four miles north of Arica city. The current of the Lluta River is some three times that of the Caplina, sufficing to irrigate about 6,000 hectares. However, the water is charged with alum, iron sulphate, and free sulphuric acid, especially during the rainy season, when the water is of so little value for irrigation that a great part is then allowed to run into the sea. Even in the dry season (dry and wet seasons refer here to rains in the Andes, not on the coastal plain where it never rains) these minerals make the water undesirable for fruit cultivation, and the principal products of the Lluta valley are corn, cotton, vegetables, and especially great areas of alfalfa. Great groves of eucalyptus, willow, and poplar trees give portions of the valley the appearance of a forest. Malaria is quite prevalent in the valley, which is considered generally unhealthy.

Most, if not all, of the noxious substances contained in the Lluta water are brought in by the tributary called the Sulphur River, the flow of which is not one-fifth that of the total flow of the Lluta which is used for irrigation. It has been suggested that the flow of the Sulphur could be diverted, and should this be done, leaving almost three cubic meter seconds of good water in the Lluta, the latter's valley would be the most important and extensive agricultural area in the Province.

The southermost valley of the province is that of Vitor, lying about 25 miles to the southeast of Arica city, in the department of the same name. It has very little water, but more irrigation than the other valleys. In the vicinity of Codpa, some 40 miles up the valley from the sea and at an elevation of 6,000 feet, are produced pears, figs, peaches, and grapes famous for their quality.

The Sama River, which divides Tacna from Peru, has a greater flow than the Caplina, but throughout the lower 40 miles of its course its channel lies close to the southern rim of its ravine, leaving practically all of the irrigated land on the northern side, that is, in Peru. At the place on this river called Tomasisi, about 25 miles from the sea, there was formerly a large sugar-cane plantation producing considerable quantities of sugar and brandy.

Maize is one of the most important crops of Tacna. Much is eaten as green corn. Corn flour is made by crude stone mills, while the cornstalks are valued as fodder. Ordinarily, maize here produces two crops per annum, requiring four or five months to develop according to the season. It may be planted any month, but usually in June and December.

Potatoes constitute another most important crop of Tacna. The potato is supposed to have originated nearby in the Andean highlands and scores of varieties are cultivated. In the higher altitudes where freezing occurs, the potato is dried whole—a result which can be secured, apparently, only when the potato is first frozen. The dried potato is called *chuño*. It is usually the size of a pigeon's egg, as hard as a bone, and will keep indefinitely. For eating it is soaked and boiled whole, or is ground and used as flour.

When compared with the production of all Chile, alfalfa occupies first place among the agricultural products of Tacna Province. As shown by the foregoing table 3,850.8 metric tons of dry alfalfa hay or more than 1½ per cent of the total Chilean production is grown in the Province. At the same time, Tacna supports comparatively large numbers of donkeys, llamas, and other domestic animals which consume green alfalfa. This crop is produced in all the valleys as a necessary food for such animals, but the chief producer is the Lluta Valley. It is ordinarily cut with a sickle, laid in swaths to dry, bunched and stacked for use, or baled in hand presses for transportation. The planting is renewed every 8 or 10 years though it continues to produce for a much longer period. The roots penetrate very deeply in search of moisture. An entirely credible witness advises that he has seen alfalfa roots, 3 or 4 inches in diameter at the surface, penetrate to a depth of 20 feet where they entered a well in search of water.

During the floods of April and May, the alfalfa beds in Tacna Valley are attacked by a small brown worm of the measuring variety, produced from eggs laid by a blue-black butterfly having a spread of about an inch. For a month or two the alfalfa attacked is stripped of all its leaves. The farmers believe that the pest is brought down by the floods, the irrigation water at this time being muddy and leaving a deposit of silt on the plants.

Grapes are produced in all the valleys except the Lluta. The ordinary variety is a round purple grape, but white Italian wine

grapes are also frequently grown. Grapes seem to produce best here when trained on arbors. The vines are then planted either side, making two rows about 15 feet apart, which are then trained up and over an arbor about 10 feet high. Many of the Tacna chacras, or gardens, have such arbors extending entirely around the garden, the arbor serving not only for the vines, but as a shady and picturesque walk. Some not unusual clusters of grapes weighed by the writer registered slightly over 3 pounds each.

A considerable quantity of grapes was formerly converted into wine and chicha, the latter being made by boiling the newly expressed juice, which is then put in pipes and permitted to ferment until the sugar content is reduced to about 3 per cent. It is then put in bottles and the fermentation arrested by the application of heat. In 1918, 386 hectoliters (10,197 gallons) of wine were produced in Tacna Province according to the official figures. This amount represented 0.025 of 1 per cent of the 1,555,543 hectoliters produced by all Chile during the same year. But the strict enforcement during the last two years of the Chilean liquor law of 1916 has considerably reduced the scope of the wine industry in Tacna Province. This law permits only two grammes of volatile acid per liter of wine, whereas owing possibly to methods of manufacture the percentage of acid in Tacna-made wine is frequently found to be excessive. In March, 1920, there were probably 100 hectoliters (2,641.7 gallons) of wine in Tacna, the sale of which had been forbidden because of excessive acidity.

Formerly the Tacna wine industry imported a considerable quantity of grapes from Peru, probably 500 metric tons, but this importation has entirely ceased, not because of the defect of Tacna-made wine mentioned above but also because of a municipal tax of about \$0.08 United States gold per kilo placed in 1919 on grapes brought into Chile across the Peruvian frontier.

Olive trees thrive in all the valleys of Tacna Province, but the production is more important in the valleys of Azapa and Vitor. They begin to bear at 6 or 8 years of age, become very large with time, reaching an age of centuries. In 1919 it is asserted that a single tree in the Azapa valley produced 19 Spanish quintals, or approximately 1,900 pounds of olives. No oil is made from the Tacna olives, but quantities are eaten locally either pickled in brine, or after treatment in brine to remove the harsh flavor. In 1918, 170.8 metric tons of olives, or approximately one-fourth of the total production of Chile, were produced in Tacna Province, some being exported in brine.

Oranges and lemons grow principally in the Azapa valley. The chief variety of orange produced is a medium-sized seedling, sweet, and having few seeds. Limes also grow well.



A PRIMITIVE CRUSHER.

Pulverizing capsicum for use in a variety of dishes with a basis of meat, potatoes, prawns, etc., to which the name "picante" is applied. This primitive mill is used to grind corn as well.



A TACNA FIG TREE.

This ancient tree has a trunk which divides near the ground, but it is all one.

Tacna figs are especially fine. Two crops are produced annually—the first, called *brevas*, ripens in December, December 8 of each year being designated as “*Brevas Day*”; the second crop ripens in March.

Apart from maize, beans, and potatoes, no official figures are available showing the production in this Province of garden produce, but the records of the Arica-Tacna railroad show that during the 10 years 1910 to 1919, inclusive, an average of 2,680 metric tons of garden produce were shipped out of Tacna city yearly. In the term “garden produce,” the railroad includes vegetables, fruit, and everything that is ordinarily handled by a green grocer. The principal market for this produce is the arid nitrate section to the south, and the activity of the vegetable market reflects the prosperity of the nitrate industry. In 1918, when nitrate was in great demand, the shipments of garden produce from Tacna reached a maximum of 3,843 metric tons, decreasing by 25 per cent to 2,866 metric tons in 1919.

The most important fresh fruits shipped out of Tacna are pears, quinces, peaches, pomegranates, apricots, apples, bananas, chirimoyas (something like the custard apple), guavas, and the cactus fruit called tunas. The most important vegetables shipped are cabbage, lettuce, cauliflower, tomatoes, artichokes, melons, watermelons, capsicum or red pepper, peas, beans, and possibly the most important of all, a kind of pumpkin known locally as zapallo, possibly the *Curcubita pepo* or *Maximo*.

All of the squash family thrive greatly in Tacna, the sandy soil, warm sunshine, and irrigation seeming to furnish ideal conditions for their growth. The most thrifty plants are found out on the desert, where dry, hot sand stretches on all sides of the irrigated melon patch. The zapallo is either greenish or yellowish white, resembling a pumpkin in shape, and specimens weighing 75 to 100 pounds are not uncommon. In 1919 the manager of the Arica-Tacna railroad weighed a zapallo presented for shipment, which tipped the scales at 215 pounds. The melons and watermelons of Tacna are particularly delicious, being fully as fine as the Georgia product.

Flowers grow in profusion in Tacna and are shipped to the less favored regions of the south in considerable quantities. Roses, sweet peas, geraniums, jonquils, jasmines, floripondio, carnations, violets, bougainvillea, poinsetta, hibiscus, cadena de amor, and many other varieties provide flowers of some kind during the entire year. There are few more attractive sights than a well-kept chacra of Tacna, with its immense arbors covered with roses, its varied shrubs and trees, and its low hedges or geraniums blazing with a profusion of blossoms unknown to the humbler geranium of the temperate zone.

No official figures for the production of cotton in Tacna Province during 1918 are available. The records of the Arica-Tacna railroad

show that during 1918 120.5 metric tons of cotton seed were shipped from Tacna city, the average figures for the 10 years 1910 to 1919, inclusive, being 130 metric tons of cotton and 155 tons of cotton seed per annum. Much of this produce comes across the border from Sama and Locumba valleys of Peru.

The variety of cotton grown here is the so-called "Peruvian." It grows in a bush 10 or 15 feet high and will live and produce for 15 or 20 years, though the most desirable product is obtained at 4 or 5 years of age. Cotton requires little water, a monthly irrigation being sufficient, and will continue to live in the desert for years without rain or irrigation. Some cotton is produced all the year, but the principal picking is in June and July. There are several small cotton gins in Tacna city where the cotton and seeds are prepared for shipment. Peruvian cotton requires but little labor and produces well in Tacna.

The sugar cane flourished greatly in the valley of Tacna and near the city of Arica in the Azapa Valley. At the present time many of the small farms have an acre or two of cane, sold for consumption raw in the market, or converted by crude mills into sirup or brown sugar. The latter, manufactured into various sweetmeats, is in great demand. According to variety, Tacna cane requires from 18 to 24 months from planting to first crop and three months less between subsequent cuttings.

The possibility of entering upon the production of cane sugar on an extensive scale in the valley of Tacna has recently been investigated by a Chilean company, "Compañía Azucarrera y Ingenio de Tacna," capitalized at 6,000,000 Chilean pesos m/c, or approximately \$1,200,000 United States gold. In an interview given by a member of this company, it was stated that the cane now planted in Tacna produces from 100 to 120 metric tons per hectare, giving 10 per cent of its weight, or 10 to 12 metric tons of sugar, per hectare. This company has surveyed an irrigation project which aims to bring to Tacna Valley sufficient additional water to irrigate 5,000 hectares. According to the gentleman interviewed, therefore, Tacna Valley should, when this project is developed, produce annually from 40,000 to 50,000 metric tons of sugar, or about one-third of the total consumption of Chile.

A few words only are necessary regarding the forests in Tacna. Owing to the absence of rainfall, it is evident that there are no forests in the agricultural portions of the valleys or on the coastal plain. In the upper portions of the Andes there is more rainfall, but the altitude is too great to permit dense growths. At any rate, in the cultivated portions of the valleys, the matter of firewood, as well as material for houses, fences, arbors, etc., on the farms, is an annoying one. Adobe bricks partially supply materials for walls and

fences, and mud plaster is largely utilized in house construction, while the timber really necessary for building is imported via Arica. Hedges of pomegranates and other shrubs, as well as adobe walls, are a common feature of the Taena landscape. A kind of coarse cane grows along the irrigation ditches wherever sufficient moisture seeps through, and this is utilized for many purposes, such as to build frames for tomatoes, peas, etc., for picket fences, and as backing for the adobe plaster, of which roofs and the walls of some houses are made. The castor-bean plant, here called *higuerilla*, grows to a height of 20 or 30 feet, and its stalk makes a general purpose pole. The eucalyptus, vilca, and larger trees of all kinds are of course utilized, but as they require irrigation applied in methodical fashion, the supply is limited.

In the lower foothills, where there is more moisture, though not enough to support a forest growth, a kind of giant moss (*Azorella monanthos*), locally known as *yareta*, grows in great quantities. When dried, it forms an excellent fuel, and is packed into Taena city, where it sells for about \$0.80 United States gold per Spanish quintal of about 100 pounds.

HIDALGO • •• • •• •

By SALOMÓN DE LA SELVA.

SPENT with heroic fatigue, worn weak with long, forced fasting, heavy with despair, their morale at the wind's will, their intrepid captain flame-eyed no longer but become a weeping figure under the boughs of a sorrowful tree whose ruined trunk will rise for centuries steadfast in its ancient place, the Spaniards commanded by Cortez are ready to perish, for it is that famous night of the 30th of June in the year of our Lord 1520. Terrible in their patriotic wrath, mighty with righteousness, the outraged children of America are at last, or so it seems, to be victorious over the bold adventurers come in the guise of gods from overseas. In the heart of these defenders of home there is not now, there never shall be, mercy for the foe. For the foe has made a mockery of solemn promises, has malemployed their good will and hospitality, has undone their kings, has desecrated and sacked their temples, has raped their daughters and sought to enslave their sons. Violence without end has been committed, but now, surely, if there is justice under heaven, the hour of retribution is at hand.

Untrue, untrue! The invaders have the better gods, even as they have the better arms also, and not that hour arrives but, with the



MIGUEL GREGORIO ANTONIO IGNACIO HIDALGO Y GALLAGA,

Father of the Mexican independence, better known as Miguel Hidalgo y Costilla, was born at the ranch of San Vicente in the Corralejo Estate, in the jurisdiction of Pénjamo, State of Guanajuato, on May 8, 1753. His parents were Don Cristóbal Hidalgo y Costilla and Doña Ana María Gallaga. While curate for the parish of Dolores he proclaimed the independence of Mexico on September 16, 1810. He was executed on July 30, 1811, in Chihuahua. His remains are buried under the apse of the altar of the kings in the cathedral of Mexico City.

dawn, a warlike Queen of Heaven, so the legends and the histories tell, stooping from her high place to mingle in this quarrel of mortals. James the Apostle, Santiago of the redoubtable war cry, patron saint of the Spaniards, attends her, riding a milk-white charger fresh from the stables of God. And while the Virgin, leaving the Child she has brought with her to the ministrations of noncombatant angels, outdoes the goddesses of pagan war tales, blinding the idolatrous warriors by casting in their eyes shafts of celestial lightning and handfuls of mean dust, the white horseman slays with prowess unabated, making "a famous killing" (*una gran matanza*¹), or an infamous, if you dare unafraid the accusation of blasphemy. Aided and abetted in epic fashion by our Lady of Remedies, the bearded men on horses (for gods we know they are not), the "double-faced" or "two-headed" ones (whence comes their opprobrious epithet of *gachupines*) are invincible. Under shield of her patronage the conquest may advance.

The conquest advances rapidly. The hour of justice is not to strike for fearsome centuries to come. The land of Anáhuac, now christened of New Spain, and which the world is to know as Mexico, is one of the most forlorn desolation for the conquered. As early as 1582 the Spanish monarch, ineffectually benevolent, will address a royal *cédula* to his ministers in the new world, complaining because of the decimation by barbarous treatment of his despoiled subjects. His majesty will write:

We have been informed that the number of Indians native of that Land (of New Spain) is coming to an End * * * That they are treated more ruthlessly than were they slaves, so that some Die from the lashings inflicted upon their flesh, and women burst beneath the burthens which they are made to carry, and die; and that other women are made to toil in the fields, wherein they live under no guise of shelter save the trees, and there are delivered of their offspring and are exposed to the bites of Poisonous insects; and that many men hang themselves, or abstain from aliment fasting unto Death, and others eat Venemous herbs; and that there are Mothers who slay their Own conceived babes at their birth, saying that they do so to spare them the Pains themselves suffer; and that the Indians have therefore conceived a very great Hatred of the name of Christian * * *²

Anáhuac is so forlorn it can be no more so. It will be long decades, as we have seen, before his most Christian majesty "is informed" of this; but there are no mendacious mediators between earth and heaven, and heaven has ready at hand all the information it may want; neither are its eyes to be blinded forever nor its heart forever shut by reason of misguided loyalty to ancient servitors; besides, that very great hatred of the name of Christian possibly worries God; and in proof of this and to undo this hatred, albeit octogenarian Fray

¹ Maestro Fray Luis de Cisneros: *Historia del principio y origen, etc., etc., de Nuestra Señora de los Remedios*: Mexico, 1621.

² Genaro García: *Don'tos inálitos ó muy raros para la Historia de México*: Mexico, 1907. Vol. XV pp. 220, 221.

Julián Garcés is in Rome most heroically bending an age-stiffened knee, imploring unsuccessfully of His Holiness Paul III to declare the Indians human, the Mother of the Lord, on a December day of 1531, does once more come to earth, on no errand of extermination but of love, of pity, of redress, of apology almost. And this is the manner of her appearance: She was announced by a concert of the sweetest birds, on the top of a solitary hill named Tepeyácac, close by the City of Mexico. There she alighted, alone; there showed herself, beautiful exceedingly, divested of all imposing majesty, clothed humbly in the very modesty of her all-sufficing grace, and awaited the passing of no captain or noble, but of a simple-hearted Indian boy, one Juan Diego, whom she calls by name. "Know, my child, my dear son," she says, "that I am Mary, the Virgin Mother of the true God. And that it is my wish that an hermitage be founded unto me in this place; a shrine wherein I may show me a pitying mother to thee and to thy people and to all who may seek me." And to this end she begs him, she entreats him; she does not order, mark you.³

Henceforth, if the Spaniards have allies in heaven—and how powerful these allies are we have already seen—the Indians (and the Pope may defer as long as it please him his declaration of their humanity) also have an advocate there, a champion and a Mother. For this Our Lady of Guadalupe is entirely Mexican; her illustrious historian, the Bachiller Miguel Sánchez, calls her the "Sacred Creole." Her portrait, that she gave Juan Diego for a proof of her apparition, painted in a miraculous way with the colored juice of roses and lilies and all the manner of flowers that blossomed at her feet on the barren hilltop, shows her indeed a creole type, dark complexioned, sad eyed, melancholy mouthed, and in her pose lowly and infinitely tender. Innumerable churches will rise in that land in honor of innumerable saints; but the Indians, of their own wont, will worship only at the shrine of *their* Virgin.⁴ Therefore, when in 1810, as we shall see presently, revolution break out and independence be fought for, the Americans will lift on high the image of her of Guadalupe to be their standard and her name their battle cry, whilst the *gachupines*, with more pomp than faith, will make their haughty, terrible Lady of Remedies their general. In the course of the strife, the Spaniards will courtmartial, in service to this Lady, that other of the Indians, and even have her executed three or four times for a traitress.⁵ By reason of these symbolic actions, rightly understood, this shall be a war of the two Virgins; that is to say, of the American against the Peninsular conception of divine right, divine justice,

³ Bachiller Miguel Sánchez: *Imagen de la Virgen María Madre de Dios de Guadalupe, Milagrosamente Aparecida en la Ciudad de México*; Mexico, 1648. Cited by Genaro García in his admirable *Life of the heroine Leona Vicario*; Mexico, 1910.

⁴ Fray Bernardino de Sahagún: *Historia general de las cosas de Nueva España* (written in the XVI century); Mexico 1829-30. Cited by García.

⁵ *Ilustrador americano*, for Dec. 12, 1812. Cited by García.

divine sanction to human deeds and divine protection of mortals. "A war without a plan," the enemies of independence and the historians that favor Spain will cry in derision of the Americans; without a definite prearranged plan, it may be, but not without an ideal, and that ideal not meanly or ineffectually symbolized.

The man who gave that ideal utterance and chose its holy symbol was Miguel Hidalgo y Costilla, born, on May 8, 1753, at a ranch in the Corralejo estate that his father managed, in the jurisdiction of Pénjamo, in the "provincial" State of Guanajuato. His parents were both creoles, of creole descent, and on this account looked upon by the more recent settlers from Spain as little better socially than the Indians. He received his first education at home, and was, at an early age, sent to a Jesuit college in the city of Valladolid (now of Morelia), where he excelled in the study of philosophy and theology, receiving the nickname of "*el Zorro*" (the Fox), that was to cling to him all his life, by reason of his sagacity and shrewdness rather than for low cunning or deceit. Here he also applied himself to the mastery of French, and is said to have read then, as well as later on in his life, many books in that language—of Voltaire, Diderot, Rousseau, and Mirabeau, condemned by the Index Expurgatorius of the church, and so became, as one of the most distinguished of modern Mexican poets and scholars tells us, "a direct child of the encyclopedists, an admirer of the tragic orators of the convention—a *Jacobin*."⁶ From Valladolid, Hidalgo went to Mexico City in 1779, where he received at the Royal and Pontifical University there, possibly from the same men who had been Miranda's teachers in 1768, the degree of Bachelor in Theology; for, although of lowly social station, his parents could afford to and did give their children (four sons) as fine an education as was then and in that land to be had; and there also, and in that year, Miguel Hidalgo was ordained into the sacerdotal orders.

In his student days, besides distinguishing himself as a scholar, Hidalgo made a reputation as a man of independent judgment, not afraid of weighing in his own mind the worth of other men, whether above him or under him in rank. Of his teachers he openly entertained a very uncomplimentary opinion, not unlike Miranda's, and one of the dozen charges brought against him by the Inquisition at a later date was that he had not wished to take the degree of doctor at the University of Mexico, saying that its faculty was a *cuadrilla de ignorantes* (a pack of ignoramuses). In 1774 he had won a prize in Valladolid for the best thesis on "The true method of studying theology," and subsequent to his taking orders he was appointed rector of his *alma mater*, where he industriously and at once made changes in the curriculum and in the texts used, employing books, such as Fray Serry's treatise on

⁶ Luis G. Urbina: *La literatura mexicana durante la guerra de la Independencia*; Madrid, 1917.



OUR LADY OF GUADALUPE.

This picture of Our Lady of Guadalupe, which hung from the walls of the Church of Atotonilco, Hidalgo, took down from its frame and made into the banner of the revolution of independence. It is here shown, carried in state, along streets on which the populace has strewn flowers, in the solemn historical parade of September 15, 1910, first centenary of Hidalgo's "grito," in the capital of independent Mexico.

theology, that were decidedly of a Jansenist tendency. In 1875 he had the valor and the intelligence, in the defense of his ideas, to offer, at a college function in honor of a visiting bishop, a debate conducted by his students on the contents of one of those books. Very unfortunately, the archives of that institution were burned when the French invaders made its edifice a barracks,⁷ and we have little data of all else that Hidalgo did there. The very date of his separation from that college is unknown; but we know that at the commencement of the nineteenth century, having already attained to a ripe age, he intrusted the churchly duties of his curacy at Dolores, a small town in the northern part of the State of Guanajuato, to a vicar and devoted his energies, that in nowise were small, to the practice, in as large a scale as he was able, of the ideas that had already matured in his mind for the salvation, through regeneration, of his people.

He gave great attention to the education of his flock, and is said to have instructed them in French even, and to have translated at that time and for their edification the dramas of Racine. The plays of that period—and it must be remembered that Mexico was a fertile field for the growth of that literature—included, among the most popular, pieces interwoven with obscene dances and piquant songs. “Already,” writes Urbina (in the work we have cited once before), speaking of 1808, “there dawned our hereditary inclination to pornography in the theatre;” and it is evident that not least among the purposes that Hidalgo wished to accomplish was the intellectual redemption of his countrymen.

Among the upper Mexican classes of that period the foolish muses belaued many a flippant head, and courtly tongues volubly descanted the fulsome honey of adulation to the rulers of the day—another hereditary inclination that the Mexicans have not yet overcome; but, unheard of the conceited, pastoral-pseudonymed Arcadiaful of poets and playwrights of that age, and unheard also of the rulers, there were noises that presaged overthrow stirring underground; and in the making of this hidden bruit that day by day inaudibly grew greater in scope, Hidalgo, no mean intellect, had a share. Studied efforts have been made by false historians, like Alamán, to belittle Hidalgo’s position among the conspirators that projected the revolution, but Zárate has adduced such proofs to the contrary as to leave in our mind no doubt that the curate of Dolores was, from his quiet retirement, the chief of those subterranean noise makers, and by his fellow conspirators acknowledged as such.

In the evenings instructing his congregation in all things that he could teach them, at night with increasing frequency presiding at the secret meetings of the dreamers of revolt and independence, how did this hale old man spend his days? Now, indeed, is here a sign that

⁷ Julio Zárate: *La guerra de Independencia*, Vol. III of *México á través de los siglos*, Mexico, 1887.

augurs the millennium; that is at least a token that a better morrow is at hand: Hidalgo, the Fox, husbands the vine!

To promote agriculture was one of his dreams, and to found industries; therefore, the first and most diligent among those souls under his care in the name of Christ, he tills the land, irrigates it, starts the cultivation of grapes that in this much latter day has become a great asset in that region; cultivates also the mulberry tree and the silkworm, and establishes a silk factory; attends to the care of bees and increases the production of natural honey to commercial quantities; revives the ancient Mexican art of pottery and builds ovens for baking clay vessels and clay tiles; opens a tannery; and, in short, in that remote place and in that age, performs wonders.

Therefore it is that the Inquisition looks from beneath clouded brows at this man and secretly gathers affidavits to condemn him. But in the nineteenth century the dread tribunal is shorn of its ancient power; the common people even sing to deride it, "*Un Santo Cristo, dos candeleros, y tres majaderos*"⁸—"a Holy Crucifix"; that is to say, "two candlesticks and three fools;" and the Inquisition, although it collects the wherewithal to damn Hidalgo's soul everlastingly, does not act; and it is not until much later, when the Spaniards ransack their earthly and spiritual arsenals for ordnance to discharge on the Father of the Independence, that the inquisitional proces is opened once more and concluded; to no purpose, however. For not in vain has the Fox studied logic under the Jesuit teachers, not in vain has amplified and subtilized his mind, mastering the metaphysics of the schoolmen; nor is he in vain intellectually of most shining honesty and therefore of incontrovertible strength. His reply to the charges of the Inquisition and to the edict of excommunication major, under that formula of formulas, "*Siquis suadente Diabolo*," hurled at him by the bishop of Valladolid, is a masterpiece of clear thinking and simple straightforward style that at once lifts Hidalgo to the rank of a master of Spanish prose. Clear eyed mentally, clear throated in his utterance, seeing the truth without equivocation, and voicing that truth with native dignity and easy precision, throughout his writings he is the peer of an else peerless American, of Lincoln even, whose ineffable compassion was also Hidalgo's in an equally great degree.

Genaro García, the able editor of the Library of Rare or Unpublished Documents concerning the History of Mexico, says in his introduction to the fifteenth volume of that series, and speaking of the condition of the Mexican people after the conquest, that—

Only one resource remained to those unfortunates—rebellion—which they did not fail to attempt temerarily on repeated occasions (oftener than is popularly believed); but as they were in the last misery and continually under watch, and as they lacked armament, and as the towns had no communication facilities with one another, these attempts were easily repressed at their very inception; a repression, moreover, that

⁸ Luis González Obregón: México viejo; Paris, circa 1900.

assumed a ferocious character as a lasting warning to all the indigenous population; for not only were the rebels slain and their bodies butchered, but their goods were confiscated, and widows and orphans left wholly unprovided for. And the result of this was finally that the majority of the natural population persuaded itself that its efforts toward liberty would never be successful, and from then on that people began to suffer, silently and quietly, with the mournful resignation of powerlessness, without useless protest or gestures of wrath, all the injustices inflicted upon them, even the most intolerable ones, in the same manner that the portentous Mexica King, Cuauthémoc, had impassably let his victors toast slowly his feet and hands. Such an attitude of inertia, prolonged during numerous lustra, ended in crystallizing the souls of the indigenous inhabitants, that are so surprisingly powerful in their gentility; souls that we have not as yet known how to warm and soften anew and how to restore to full social life. * * * And so will things go on indefinitely until public education, the only creator of ideals that can give peoples an effective existence, cohesion, development and power, comes to tell our people, piously and resolutely, "Arise and walk."

These things Hidalgo knew, and the solution to the problem he had attempted, as we have seen. In his vast soul the future of his people was clearly impressed; but past wrongs committed to them had not inclined this valorous spirit to resignation; rather, breathing with ample intellectual nostrils the spirit of the times that was blown from the North by the example of the Thirteen Colonies, and from overseas by the French Revolution, he was all for rebellion, and that rebellion to have for its immediate aim the independence of his land. And now, in the beginning of the century, "the moral and economic debility of Spain," writes Urbina, "tempted us to resolve in a definite way our old problem of liberty." The conspirators, men and women, of the church and the army and the laity, were many and some of them of importance. Their recognized chief was Hidalgo, under whose care, at the smithies of his parish, lance points were being fashioned. It had been decided to launch the movement publicly on the 8th of December of 1810, feast day of Our Lady of Guadalupe; but matters were precipitated a full month, for one of the conspirators, in his deathbed, as some historians say, told of the plot in the course of his final confession; or, as others would have it, some malcontent spirit or perverse soul, deliberately and secretly related what was going forward. Be this as it may, on the night of September 15th, almost at dawn of the 16th, behold a horseman rushing into the slumber of the Cura of Dolores, breaking it with sudden news. "*Señor Cura*," cries Allende, brave captain that he was—"Señor Cura, we are caught in a trap. No human power can save us." "I see that we are lost," Hidalgo replies, "and no other course remains to us but to go out and get *gachupines*."

The extant accounts of what followed are various. The sources on which Prof. Arthur Howard Noll, of the University of the South, bases his interesting book on Hidalgo,⁹ tell of Hidalgo's ringing of a bell "a few minutes before midnight." But better documented

⁹ Arthur Howard Noll: *The Life and Times of Miguel Hidalgo y Costilla*; Chicago, 1910.

stories say that he quietly gathered about him his own servants and friends, and that he led them to the town prison, where after a little resistance the doors of the jail were opened and a number of the prisoners held for contumacy released, increasing the ranks of the insurgent army to some 80 men. They had no arms except the pikes prepared at Hidalgo's smithies and a few sabres; but these sufficed them. Hidalgo proceeded to the orderly arrest of the Spanish male population, and at about 5 in the morning of the 16th, bringing these captives, these hostages, he returned to his church. It is then that Hidalgo had the church bells ring the garrulous and rather glad call to Sunday mass, and hastily, now in full daylight, from the surrounding *ranchos* his parishioners came, filling the atrium of the temple. In his accustomed manner, with his usual impassioned but succinct way, Hidalgo addressed this crowd and "Long live independence, long live America, down with the evil government," was the cry that made all those throats hoarse.

We have not had available to us any authoritative version of Hidalgo's words on that memorable occasion, but a trustworthy American historian has written the following:

He gazed on the upturned faces with deep and yearning solicitude. "My children," he said, "this day comes to us a new dispensation. Are you ready to receive it? Will you make the effort to recover from the hated Spaniards the lands stolen from your forefathers 300 years ago?"¹⁰

And commenting on this harangue two more recent writers, who are not wrong in the conclusions they draw here, but whose book, through being too perfervidly one-sided, is not entirely a correct historical work, have said that—

If the battle cry of the insurgents was henceforth "Down with the Gachupines," this was not due so much to the fact that the big landowners were Spaniards, as to the fact that they maintained their hold on the land only through the powerful arm of the Spanish executive. Supplementing this attitude toward the administration on the part of the native peons and workmen, was the eagerness of the mix-blood middle class to overthrow a régime that ostracized them from all the higher official positions in church, State, and army. But whatever advantage these intellectuals may have hoped to gain, *the great mass of peons who shed their blood freely in the struggle had at heart no other idea than the ownership of the land. The revolution of independence was essentially an agrarian revolution.*¹¹

Allende and Aldama, coheroes with Hidalgo in this emprise, were officers of the garrison stationed in the city of San Miguel el Grande (now San Miguel de Allende), where the insurgents counted with friends and especially with winning over to their side trained soldiers from the garrison. To San Miguel then the small army of Hidalgo repaired, and, as they advanced, almost miraculously from the fields, from every footpath, as if sprung from the ground itself, men and women joined them; entire families, all instinct with a new life, all

¹⁰ Hubert Howe Bancroft: *History of Mexico*: New York, 1914.

¹¹ De Lara and Pinchón: *The Mexican People: Their Struggle for Freedom*; Garden City, New York, 1914.

conscious that a force greater than themselves impelled them forward, all, at the cry of Long live Independence, awakening from the racial inertia of centuries, long dormant feelings stirring in their breasts, the spirit of nationality being born again in those hearts aware of one thing above all other things, that this was their day.

On the way to San Miguel the insurgents passed by the little town of Atontonilco; here in the antechamber of the chapel there hung a picture of the Virgin of Guadalupe; giving it to a soldier to bear it on high, "This is our flag," Hidalgo said, and "Long live the Virgin of Guadalupe!" became the revolutionary cry. Let now the Spaniards call on James of the white charger; heaven is on our side *this* time. True, there is no apparition of heavenly allies, but that is not needed; suffice it that *we* know they are with us. Under their patronage independence may advance.

Independence advances. Was it not eleven years from the apparition of Our Lady of Remedies until that of Our Lady of Guadalupe? Now, also, it shall be eleven years until independence is attained. In this period, what birth-throes again until the nation is born. But, thank God, the nation has been conceived!

Is it difficult to justify this people, that in the first élan of freedom it should have remembered that retribution that could not be made centuries ago, the feeling for revenge that it had let smolder in its heart for generations? More, even, can we blame that people if now it takes its revenge?

Hidalgo's army grows to gigantic proportions; it can not be disciplined, it can not even be armed. With the cries of "Long live Independence" and "Long live the Virgin of Guadalupe," rises now the cry of "Death to the *gachupines*." Some one (Alamán says it was Hidalgo, but that has been proven an untrue assertion) from the balcony of a house in San Miguel throws handfuls of silver to the insurgents with "Take it, boys; this is all yours." And so the sack of the town is begun.

Hidalgo has finished his mission. From then on, for a few months, it shall go hard with him unto the bitter end. The revolution shall grow beyond his control. He shall be appointed captain general, but will prove himself not a great soldier. His army shall triumph at times, but only in spite of its ignorance and his poor command. Allende will succeed him in the military leadership; Morelos will join him and become his lieutenant and undertake the task of bearing forward the fight for independence in years to come. But Hidalgo will not long outlive this his day of triumph, of proclamation of independence.

After a number of vicissitudes that it is not our aim to recount here the leaders of the revolution decided to go to the United States to solicit the aid of the United States. Prof. Noll is of the opinion that "in reaching this decision they were reviving an interest in the under-

standing which probably existed between them and the adventurous spirits of the United States led by Col. Aaron Burr some years before; that the latter would come to the assistance of the former, should they ever strike for independence." The first two envoys from independent Mexico to the Government in Washington never reached their destination. They were overtaken by the Spaniards at Bexar, Tex., and shot afterwards, at Monclova, in the northern Province of New Spain. By way of Monclova, too, Hidalgo and his coadjutors, under as strong an escort of their own soldiers as the circumstances permitted, set out for the United States. It is hopeless to speculate on the result their pleadings might have had. The Big Brother stuff had not yet become the fashion, and the real spirit of continental friendliness that we know now had not yet possessed the American nation. Hidalgo's and his companion's hearts would have been broken at failing to obtain succor for their cause. And so it was perhaps just as well that the treason of an officer named Elizondo delivered them into their enemies' hands; at Monclova they were enchained and from there sent to Chihuahua under a strong military guard.

This was the longest journey that the Father of Mexican Independence had ever had occasion to undertake. Six hundred miles of unwatered road, dragging chains, allowed almost no rest by night or day, this was his *via crucis*. At Chihuahua his companions in plotting and in revolt were executed on June 26, 1811, and himself on the 30th of July. The heads of the principal four, namely, Hidalgo, Allende, Aldama, and Jiménez, were taken to Guanajuato and placed upon pikes at the four corners of the Castle of Granaditas, the Alhondiga or public granary, that had been the scene of terrible battle and massacre months before. There these witnesses remained until 1821, when, almost fleshless, they were taken to the hermitage of St. Sebastian. And when independence was not only attained but assured, they were carried solemnly to the Capital and buried in the apse of the great Cathedral, under the Altar of the Kings built for a mausoleum to the dead viceroys of New Spain.

Bancroft, in the book we have quoted above, gives us this fine picture of our hero, with which we wish to close this article:

Of medium height and goodly proportions, large of limb, and with ruddy-brown complexion, he was still (in his fifty-eighth year) almost in the vigor of manhood. His head, bald and shining at the crown, though at the sides were straggling white locks, was large and well modeled, with massive features, thin lips, and prominent eyebrows; while the full, round chin, clean shaven, as was the custom with his cloth, betokened unyielding power of will. He was a man of kindly and sympathetic heart; in manner gentle and winning; in deportment natural and graceful; and not least among his gifts was a sonorous and musical voice, whose accents vibrated in the ear with pleasing effect. He had the true scholarly stoop, and in his mien and features was a profoundly meditative expression—a fitting incarnation for the great soul that reposed in settled calm beneath.

BOTANICAL EXPLORATIONS IN ECUADOR¹ ∴ ∴

By Dr. J. N. ROSE.

ABOUT three years ago, through the efforts of Dr. N. L. Britton and Dr. B. L. Robinson, a comprehensive plan for carrying on botanical explorations in northern South America was formulated. This is directed by the New York Botanical Garden, the Gray Herbarium of Harvard University, and the United States National Museum. It is proposed to make a very thorough investigation of this region, which will doubtless lead to the great enrichment of our botanical collections and greatly increase our general knowledge of the plant products of northern South America.

I was authorized to inaugurate this work in Ecuador in 1918 and, accompanied by my son George, who acted as photographer and general assistant, I left Washington July 22, going by way of Panama to Guayaquil. We arrived in Guayaquil August 9 and returned to Washington December 4 of the same year.

During our stay in Ecuador we made extensive excursions into the interior, both along the railroad through the middle of the country and over mountain trails through the southern provinces. Thus two sections were made from the coast to the high Andes and in addition one trip was made from San Antonio via Quito, Ambato, and Cuenca along the Interandean Valley to Loja in the south. Plants were collected at various altitudes to show the variations in the flora.

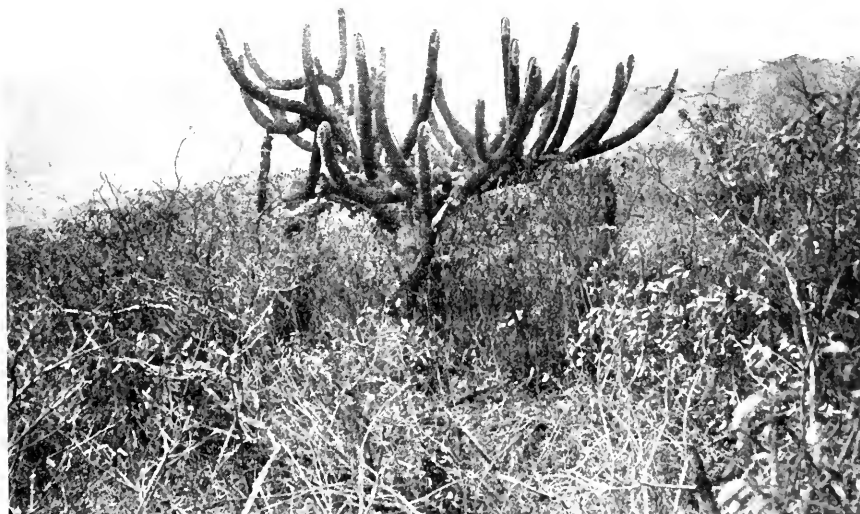
We found Ecuador a country of great possibilities, in some respects the most interesting in South America. Ecuador has one of the most ancient civilizations in the New World, which is the Mecca for the archaeologist. Her natural resources are unlimited. From her almost boundless forests more than a hundred kinds of useful woods have been described, among which are the cedro, much like the Spanish cedar of Mexico, the Guayacan, but very unlike the wood of that name in the West Indies, the Mangle, here a large tree, but in other countries often only a bush; the Amarillo, but, unlike the wood of the same name in Panama, and a walnut, near the black walnut of the United States, which is often referred to as the same species. The valleys and grass-covered plains furnish food for hundreds of herds of cattle

¹ Based on an address delivered at the Centenary Celebration of the Guayaquil Independence Movement, Pan American Building, Washington, D. C., Oct. 9, 1920. Published by permission of the secretary of the Smithsonian Institution.



FIBER FOR MAKING PANAMA HATS.

The making of Panama hats is one of the most important industries of Ecuador. This is in the high Andean valley, where the fiber is being bleached and dried in the sun.



THE HILLS BORDERING THE CATAMAYO VALLEY.

The plant in the center of the picture is one of the species collected by Alexander Humboldt, about 1803, in southern Ecuador.

and thousands of sheep. Near Quito are many large dairies and blooded stock has been introduced into many herds.

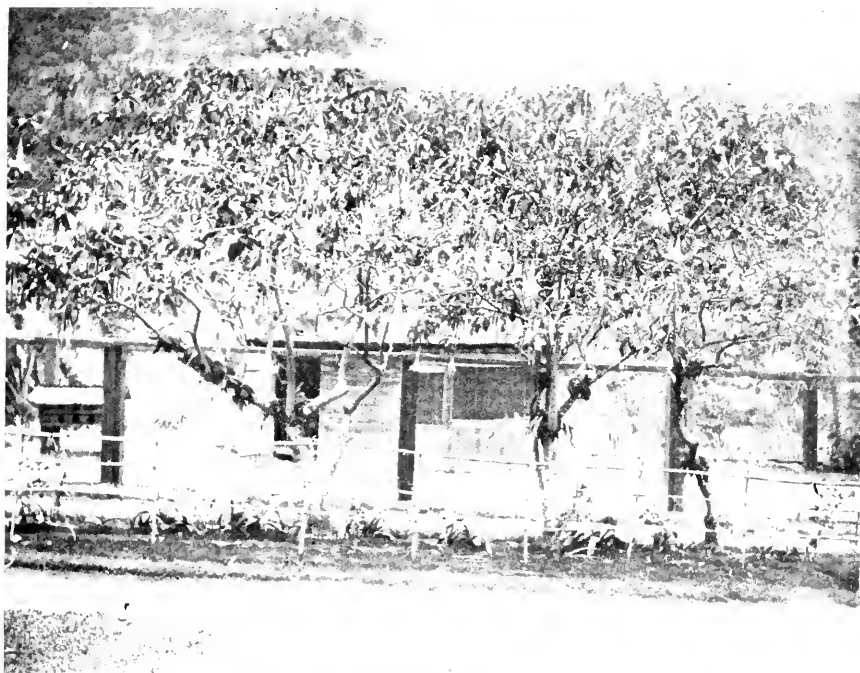
The climate of Ecuador is very diverse, ranging from the heat of the Tropics to the cold of the everlasting snows. In the highlands is a delightful climate, where are grown the fruit, grains, and vegetables of the temperate regions of the United States and Europe. Among the fruits are apples, pears, peaches, and all the well-known varieties of this zone. Here, especially, the town of Ambato is famed for its fruit. "You should see Ambato during the fruiting season" has become a byword in Ecuador. The chief vegetables are potatoes, most of which are consumed in Ecuador, the oca, a species of *Oxalis*, zaniahoria, a relative of the parsnip, and several other kinds little known in the United States, some of which it would be well to introduce. The chief grains are wheat, barley, corn, oats, and certain native grains such as *cuinua*. In the lowlands are grown all the tropical fruits, vegetables, and grains, such as sugar cane, coffee, the cacao, and the staple crop of Ecuador, rice, bananas, avocados, pineapples, coconuts, the mamey, the breadfruit, and many others.

Although many botanical collectors have visited Ecuador from time to time and some of them have lived there for years, only a beginning has been made toward a comprehensive study of the rich flora of this country. It was a great surprise to find so many novelties. The first plant seen on landing at Guayaquil was a white-flowered amaryllis growing in the mud along the river front. This I gathered only to find that it was new to science, although it had been growing here, admired by citizens and visitors, since colonial times. And so it was all through Ecuador. I was constantly coming upon new and rare plants, some of which were ornamental and many useful. One of the most interesting was a peculiar vine with a red fuchsia-like flower growing in the rain forests of the western Andes. This proved to be a new genus and will be named in honor of Dr. Rafael H. Elizalde, the distinguished Ecuadorean Minister to the United States. In the southern part of the country a tree-cotton was discovered which proved to be a new genus, and this will be named in honor of Abelardo Pachano, a professor in the Quinta Normal of Ambato. Prof. Pachano, who was educated at Cornell University, is an enthusiastic student of plants and is now devoting most of his time to the study of plant diseases which are injurious to the plants and crops of his own country. The balsa, one of the lightest woods in the world, abounds along the rivers and mountain valleys of Ecuador. It has been used extensively for rafts ever since the days of the conquest. Botanists, heretofore, have considered the Ecuadorean wood identical with the Central American species, but Prof. W. W. Rowlee, who has studied this wood, which



A SPECIES OF GUNNERA.

This specimen was cultivated in the American Legation at Quito. It is native in the mountain valleys of Ecuador.



THE DATURA PLANT.

This plant is called floripondia in Ecuador. It is cultivated very extensively.

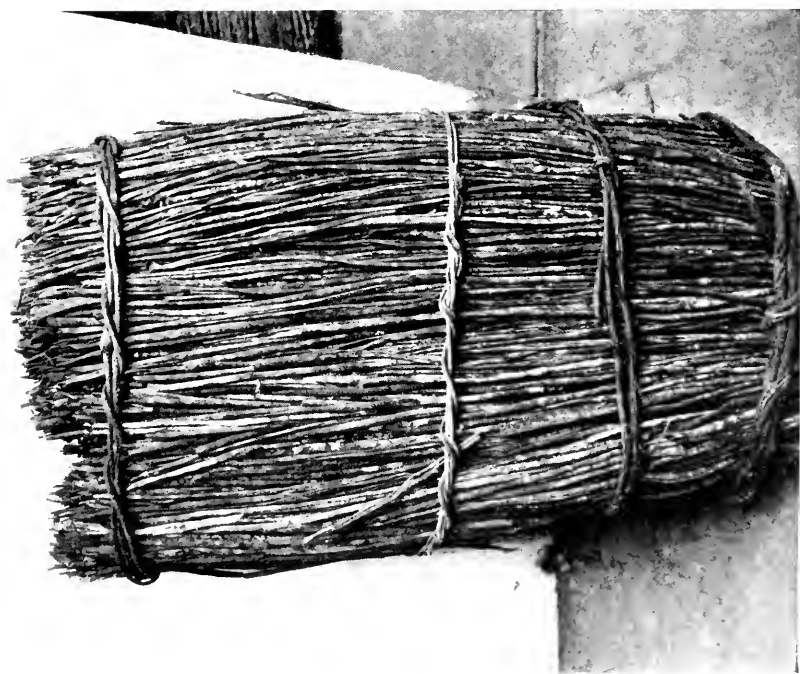
was so much in demand during the war, reports that the specimen brought back by me represents a new species.

The botanical objects which we wished to accomplish by our expedition were: First, to collect as full a series of dried plants as possible during our limited stay. Second, to make a special study of the cactus flora in connection with investigations being made for the Carnegie Institution. Heretofore only about 10 species of this family were known definitely from Ecuador, but we found about three times this number. Third, to retrace Alexander Humboldt's route and re-collect as many of his species as possible. Humboldt, accompanied by Amie Bonpland, came to New Spain toward the end of the eighteenth century and traveled extensively in Mexico, Venezuela, Colombia, Ecuador, and Peru. In 1801 and 1802 he was in Ecuador and traveled along the Interandean Valley from Colombia to Peru making large collections of plants, many of which have not been gathered since his day. I took with me a manuscript list of his plants with their localities and each morning by looking over this list I could predict what plants we could expect to see during the day. In this way I was able to obtain some of his rarer plants which might otherwise have been overlooked. Altogether I collected more than 2,000 different kinds of plants, many of which are new to science and many more new to the botanical collections of the United States.

One of the sections which we made across Ecuador was covered by rail. This railroad journey from Guayaquil on the coast to Quito in the Interandean Valley is one of great interest, especially to the botanist. Two days are required for the trip, since the train does not run at night. You must leave your hotel at Guayaquil very early in the morning—too early, in fact, for most of us—and take the ferry across the Guayas River to the little town of Dublan, which is the terminal of the Guayaquil and Quito Railroad. The river is more than a mile wide at this point and is dotted here and there with small green islands, while the surface of the water is scattered with patches of lechuga, or river lettuce, which at one time is floating seaward and at another rushing upstream carried by the strong tide. The opposite bank of the river is lined with tall coconut trees, and the beautiful towers of the cathedral stand out clearly above the low houses of the city.

On leaving Dublan a narrow arid belt is first passed over with its stunted vegetation of cacti² and thorn bushes and then broad swamps appear in which are seen water lilies (*Castalia* sp.) and other interesting reeds and rushes. Continuing eastward, great orchards of cacao and coffee and fields of rice and sugar cane come into view,

² The cactus, *Lemaireocereus cartwrightianus* Britton and Rose, *Caetaceae* 2: 100, 1920, grows here. It was named in honor of Alfred Cartwright of Guayaquil.



THE CINCHONA BARK PREPARED FOR SHIPPING.



CAESALPINIA SP. BARK IS USED EXTENSIVELY FOR TANNING PURPOSES.

followed by cornfields and banana and rubber plantations. The coastal plain here is almost 50 miles wide. On the eastern side, at the base of the mountain, is the little town of Bucay, and here the railroad enters the mountains, rapidly climbing through narrow gorges and winding along the Chanchan River valley until the village of Huigra is reached at an altitude of about 4,000 feet. The lower part of this ascent is through the dense tropical forest. On the trees are found a rich epiphytic flora, consisting of mosses which hang in long, delicate festoons, filmy ferns, brilliantly colored orchids, several kinds of cacti, tillandsias, and the Spanish moss, so characteristic of all tropical countries. As Huigra is approached there is another arid belt with a rather abrupt change in the flora, for once more the cacti and thorn bushes are seen, but of different kinds. Here we found a giant cactus³ which has been named in honor of the American consul general of Guayaquil. Huigra is the headquarters of the railway, where are located the offices and hospital. The residence of the superintendent of the railroad is most unique, for it is made largely from the stems of bamboo. Huigra is the breakfast stop for all passengers going into the interior. It is a very healthy town, with good water and a delightful climate. We made this place our headquarters during our stay in Ecuador, making excursions to the high mountains to the north and south. Through the kindness of Mr. John Dobbie, the superintendent of the railway, we were permitted to go up the road by freight cars, as well as by passenger train, going down by gravity on hand cars. In this way we were able to explore a wide range of country. Along the railroad near Huigra we collected many interesting plants, not a few of them new to science, including several prickly pears,⁴ three ornamental bulbous plants, one or two showy shrubs and vines.

On leaving Huigra the train climbs rapidly up the river valley until it reaches a great granite mass, called the Devils Nose, which blocks almost completely the entire valley, but by a series of zigzags cut on its side by the engineers the train is lifted swiftly several hundred feet and thus is enabled to pass round the Devils Nose.

The valley continues to be arid, but the vegetation changes markedly. At an altitude of about 6,000 feet the giant cactus, first seen near Huigra, disappears and another one more compact, with longer and larger flowers, makes its appearance. This one, too, proved to be undescribed.⁵ It has been introduced into the Interandean Valley, where it is used for hedges about fields and yards. Other rare and interesting plants are met with. One, a *Fourcraea*, is an important economic plant, furnishing much of the fiber used in the country;

³ *Lemairococcus godingianus* Britton and Rose, *Cactaceae* 2: 91. 1920.

⁴ *Opuntia gobbianana* Britton and Rose, *Cactaceae* 1: 225. 1919.

⁵ *Trichocereus pachanoi* Britton and Rose, *Cactaceae* 2: 134. 1920.



THE IVORY PALM.

A specimen of this valuable tree as it grows in the mountains below Huigra.



THE CENTURY PLANT ABLOOM IN ECUADOREAN MOUNTAINS.

it is called *cabuya blanca*. A very curious plant called *shanzhi*, a species of *Coriarea*, furnishes a native ink, more used, however, in colonial times than now. The ink is developed in the petals of the flowers. After anthesis the petals do not fall off as in most flowers, but continue to grow and become very turgid with an inklike substance.

The train continues to ascend until the top of the range is reached and then rather rapidly descends into the Interandean Valley. We are now in a delightful temperate region, surrounded by fields of barley and wheat. Here and there are swamps filled with a tall reedlike plant called *tatora*, a species of *Cyperus* (*C. riparius*). This plant is a very useful one. The stems are cut and dried and made into all kinds of mats, for which there is an important trade in all the local markets.

The section which we made across southern Ecuador was from Loja in the mountains to Santa Rosa on the coast. This part of the trip was made by pack train over the mountain trails, some of them almost impassable. After crossing a mountain range the trail winds down the steep mountain side into the Catamayo Valley, which is very dry and hot. The vegetation consists of stunted shrubs and cacti, most of which were unknown to us and some of which have since proved to be undescribed. The valley itself is a desert, but the best part of it is irrigated from the mountain streams. Our trail led us by way of Portovelo, where the South American Development Co. is engaged in gold mining. Ten days were spent at this camp, and we had an opportunity to study the flora of a very interesting region and also to see something of the workings of this American camp. Portovelo is built on a mountain side. Near the river are the mills and offices, while dotted over the mountain side are the comfortable homes of the company officers and, highest of all, is the hospital from which floats the American flag. This hospital is in charge of an American doctor and an American nurse, and here hundreds of poor Ecuadorians are treated free each year. A school is maintained for the children of the miners, and various phases of welfare work are carried on in the camp. Mr. Andrew Mellick Tweedy, the resident manager, gave us every facility for the prosecution of our work in his neighborhood.

Our third section, as stated above, was made from north to south and extended from San Antonio to Loja. The northern part, except from San Antonio to Quito, was made by rail, while the southern part was made by pack train. The so-called Interandean Valley is not a continuous valley, as the name implies, for the Andes of Ecuador consist of two high, more or less parallel ranges, which are connected by numerous cross ranges nearly as high as the main ranges themselves. The so-called valley, therefore, is more properly

a series of basins, some of which drain into the Atlantic and some into the Pacific Oceans. In these basins are located towns surrounded by fertile fields. Their slopes are covered with forests and are called *montañas*, while the country connecting these basins is called the *paramo*. A trip down the Andes therefore consists chiefly in climbing the sides of one of these basins, often very steep, and crossing the *paramo* and down the sides into the next basin. The *montañas* and *paramos* are uninhabited. The *paramos* themselves are very bleak and are usually covered with clouds. They are very cold and there is great danger of being lost there. Botanically they are very interesting, for there is an abundance of Alpine plants. Here can be seen several species of gentians, one with sensitive petals, lupines, dwarf compositae, several species of Ericaceae, and several species of grasses.

There were certain economic phases of my trip which I should like to mention. Just before the end of the Great War our Government became concerned about the quinine situation. It is needless to explain how valuable this medicine is in time of war, as well as in time of peace. All our commercial quinine is imported, and as the war progressed the price increased enormously. All shipping was badly crippled, and there was danger that our supply might be cut off at any time. Ecuador and Peru at one time furnished the world with its supply of cinchona bark, from which the quinine is extracted, so in order to be prepared for the emergency, which might occur at any moment, I was asked to look into the subject while in Ecuador—that is, to learn how extensive the cinchona forests were, whether the bark could still be obtained in commercial quantity, which varieties of cinchona were best, whether seeds could be obtained, so that plantations of our own might be started in some of the colonies, and, in short, to gather all the information possible on the subject. At one time the mountains of Ecuador were covered with forests of cinchona trees of several species, but many of these have been destroyed by reckless gathering of the bark. However, there are still many trees left, and under proper forestry regulations or with Government encouragement this quinine industry might easily be restored, and there is no reason why it should not be more flourishing in Ecuador than in Java and far more successful than it has proven to be in India, for the correct conditions of soil, moisture, and shade can be obtained for the proper growth of the trees.

Another economic problem assigned to me was to obtain seeds, cuttings, and information regarding a mountain avocado. The United States Department of Agriculture for a number of years has been endeavoring to introduce and create a demand for that most delicious of tropical fruits, the avocado, also called alligator pear,

aguacate, midshipman's butter, vegetable butter or, scientifically, *Persia gratissima*. The avocado grows only in the Tropics, usually along the coasts. It is very common in Mexico, the West Indies and south to Peru and Brazil. It can be grown in Florida and southern California. The experts in the United States Department of Agriculture had information that a variety of this tree was growing in the mountains of Ecuador, and it was believed that if a variety of avocado could be discovered which would stand several greater degrees of cold than the common form, the northward growth of the avocado could be extended greatly. And so it was that I made a special trip into the high Andes to study this variety. At Ambato, at an altitude of about 8,000 feet, and at Quito, at an altitude of about 9,000 feet, these trees are not uncommon. Here they stand a temperature several degrees below the freezing point. A good quantity of seeds and budwood were shipped back to Washington which are now being experimented upon by the Department of Agriculture.

One of the most important and unique industries of Ecuador is the exportation of the ivory nut or negro head, both of which names are self-explanatory. The nuts are called tagua in Ecuador. We are usually told that this nut is the fruit of a palm, and indeed it is called the ivory palm, but it is not of this family, although a near relative. The scientific name is *Phytelephas*, or elephant plant. Several species of this genus are native to Ecuador and these are different from the ones which grow in Panama and Colombia. The nuts from these trees are gathered in large quantities, put in bags and sent by shiploads to Europe and the United States, practically supplying the button market of the world. The ship which brought us out of Ecuador took on at the little town of Manta 10,000 bags of the nuts.

A South American industry in which we are all more or less interested is that of the Panama hat. The best of Panama hats come from Ecuador and there are several centers of the industry there. The one which I visited is at Azogues, near Cuenca. Azogues is a small town high up in the Andes, cut off from the rest of the country, without railroads or wagon roads, and does not even grow the fiber from which the hats are made. This is brought from the coast by pack train, and when the hats are made they are again packed out to be sold. Just how this industry had been developed at Azogues I could not learn, but doubtless some farseeing statesman introduced it into this mountain town, where it has proved a great blessing to the inhabitants.

The above is only a brief outline of a very interesting and, we believe, an important expedition. The assembling of the scientific results will show many additions to the flora of Ecuador, numerous species new to science, and much information regarding the woods, fruits, and ornamental plants of the country.

WOMAN'S SUFFRAGE IN THE AMERICAS ∴ ∴ ∴

By MURIEL BAILY, *Pan American Union Staff.*

The right of citizens of the United States to vote shall not be denied or abridged by the United States or by any State on account of sex. Congress shall have power to enforce this article by appropriate legislation.

THROUGHOUT the pages of the world's records of the rise and fall of nations and of men, of the ambitions of kings to rule, and the demanded right and proven ability of commoners to freedom of thought and of action, there has never before been written so vital a world-influencing development in so brief a paragraph. With those few words has ended the longest bloodless campaign for the right of participation in self-government that the world has ever known. The two sentences complete the full enfranchisement of 27,000,000 women—the greatest number ever given suffrage at one time by any orderly and organized Government.

The nineteenth amendment to the Constitution of the United States, sometimes called the Susan B. Anthony amendment, in honor of the pioneer suffragist, was passed by the House of Representatives of the United States May 21, 1919, and by the Senate the following June 4. This was the beginning of the end of a struggle which had begun with the making of that Constitution and had gathered strength and purpose in over three generations until it could not be denied. However, although the ultimate victory was assured in the summer of 1919, it was not until August 18, 1920, that the last of the required 36 States had ratified that amendment and on August 26, the Secretary of State, Bainbridge Colby, issued the proclamation which made it a law of the land. This enabled the new voters to qualify for the presidential election, which occurred November 2, the results of which were unprecedented in American history, not only because of the first instance of universal suffrage and that for the first time women were voted for in a number of States for the United States Senate, House of Representatives, State offices, and presidential electors, but also because of the overwhelming majority which took the election out of party lines and made it American.

The spirited mental war of women for a right to share in governing the Nation as well as in the arduous task of its upbuilding may be said to have begun in 1647, when Mistress Margaret Brent, of Maryland, heir of Lord Calvert, demanded "place and voyce" in the legislature of Maryland. The petition was seriously debated on the

ground of property holdings, but it was defeated. The first historic record of a demand for sex representation was made by Abigail Smith Adams in a letter to her husband written in 1776, in which she declared that in order to have heroes, statesmen, and philosophers, the country needed learned women, and said further:

I long to hear that you have declared an independency, and, by the way, in the new code of laws which I suppose it will be necessary for you to make, I desire you would remember ladies, and be more generous and favorable to them than were your ancestors. Do not put such unlimited power into the hands of husbands. Remember all men would be tyrants if they could. If particular care and attention are not paid to the ladies, we are determined to foment a rebellion and will not hold ourselves bound to obey any laws in which we have no voice or representation.

It is evident that John Adams regarded his wife's protests in the light of pleasantry and looked upon the rebellion which she suggested as of no particular importance. The Continental Congress left the matter to be dealt with by the States in their several constitutions. In New Jersey women voted under a clause which gave the franchise to all inhabitants possessed of \$250 or more, and in 1790 a revision of the election law used the words "he and she," which definitely included women. After some election scandals in 1807, however, the legislature passed an arbitrary act depriving women of the ballot. From 1691 to 1780, as a colony, Massachusetts permitted women holding property to vote.

The founding of a democracy in an untried land, the experiment of a free government, the casting off of old-time traditions and customs, and the taking on of privations, dangers, and sacrifices developed resourcefulness, courage, independence of spirit, and brain power in women as well as in men. Following the conjugal outburst of Mrs. Adams, however, the question of women's right to political freedom on their own account found no public utterance until 1826, when Frances Wright, a young Scotchwoman of education and wealth, arrived in the United States and joined with others in the printing of a publication which advocated, among other advanced theories, equal rights. Her advocacy of woman's suffrage met with "almost universal derision." When, in 1829, women desired to study higher mathematics, a contemporary wrote that the suggestion was "as funny as a dog walking on its hind legs." Among the women of that period who left their impress upon a world unwilling to accept them were Elizabeth Blackwell, who in 1836 gave the first medical botany to the world and was prosecuted for debt; Antoinette Brown Blackwell, who desired an open door for women in the ministry; Florence Nightingale and Clara Barton, whose wish was to serve humanity; and Hannah Lee Corbin and Lucy Stone, who set forth the rights of women on the grounds of the doctrine on which the Republic was founded: "Taxation without representation is tyranny."



MISS SUSAN B. ANTHONY.

Miss Anthony spent her whole life in teaching and advocating such issues as abolition of slavery, prohibition, and women's rights.



MRS. ELIZABETH CADY STANTON.

One of the women to call the first woman's rights convention, and one of those who spent her life working for the cause.

Looking back over the history of those days one is impressed with the invincible spirit of the women who aligned themselves publicly in the fight for freedom. Up to 1828 the country was in the stage of adaptation and construction as well as experiment; but when in that year the Grimke sisters of South Carolina freed their slaves and went north to start a mission in New England for the purpose of arousing a sentiment against slavery, a movement of reconstruction was begun which ended only with the Civil War on the one hand and the passage of the nineteenth amendment on the other. Much the same inspiration must have come to these women reformers as caused Joan of Arc to lead her people, only that actual warfare carries with it an abnormal and lofty indifference to life which sustains one through and makes them glory in even the supreme sacrifice. But to endure sordid indignities through long years, devoid of the thrill of acclaim or the glory of conquest, to be rotten-egged, and mobbed, and burned in effigy, and held up to public ridicule and scorn, and to have endured much of this contumely from those whom they were trying to benefit, this must have required indomitable will power, splendid belief, and a vision not vouchsafed to many in the world's history.

It has been commented upon that the majority of those who immediately enrolled themselves in the cause advocated by the Grimke sisters, and who entered heart and soul into the fight for human freedom, were the women of the sect called Quakers. Their very name has come to stand as a symbol for simplicity of living, right thinking, and austere endurance. Having won through their own persecutions in colonial days, they bore ever after a tolerant leaning toward the oppressed, which manifested itself in their attitude toward slavery. We find, therefore, in the early thirties a quiet but powerful movement by women as well as men toward the abolition of slavery and the formation of an antislavery association.

About this time, in 1836, Ernestine Rose, a Polish girl, the daughter of a rabbi, and banished from her own country because of her advanced ideas, arrived in the "land of the free." She lectured on scientific government to large audiences, but when she found that in the great State of New York married women were not free agents—or, as some one has facetiously stated, when a man and woman were married they became one, and he was the one—she set about to remedy this evil. She drew up a petition to which she secured five signatures, including men and women, but she went before the State legislature and made her plea, and 10 years later New York passed a law which has since been used as a model for the English-speaking world, the first law ever passed granting separate property rights to married women.



MRS. CARRIE CHAPMAN CATT,

President of the National Woman's Suffrage Association at the time of the passing of the nineteenth amendment and founder and president of the International association. Mrs. Catt expects to visit Latin America during the year.



MRS. MAUD WOOD PARK,

Chairman of the National League of Woman Voters, an ardent suffragist, and a well-known lecturer and educationalist.

And while Miss Rose was busy with these efforts, the antislavery association held a convention at which the women, whose work in the cause had been so ardent and self-sacrificing and who fully expected to have "place and voice," found themselves without the opportunity to either speak or vote. Even men whose views were most liberal were unwilling to listen to the women, and so stormy did the discussion become that it caused a break in the movement in the United States and communicated itself to the world's antislavery convention held in London in 1839, where, when the question arose, the women were denied recognition as delegates.

Out of this undiplomatic move on the part of the gentlemen grew the fixed determination on the part of women to secure their rights, and the design of holding a woman's convention in the United States. Elizabeth Cady Stanton, Pauline Wright Davis, and Lydia Mott associated themselves with Ernestine Rose in her endeavors to secure the passage of the married women's property rights law in New York. Margaret Fuller, in Boston, began to write and give semi-public lectures on the question of woman's rights; Lucretia Mott published a series of essays in answer to speeches of ridicule being made by men on the subject, and Lucy Stone, fresh from school, hung out her own handbills for lectures of her own arrangement for the cause. Finally, at the Yearly Meeting of Friends in New York State in 1848, Lucretia and Lydia Mott, Martha Wright, Mary Ann McClintock, and Elizabeth Cady Stanton, all young, charming, and purposeful Quakers, prepared the "Declaration of Sentiment" and a set of resolutions, and sent a call (which they did not dare to sign) to the county papers for a two days' convention to be held at Seneca Falls, N. Y., to discuss the "social, civil, and religious conditions of women."

The meeting was held in July, and the resolution asking not only for the franchise, but for equal rights in universities, trades, and professions; personal freedom in property, wages, and children; the right to make contracts; to sue and be sued; and to testify in courts of justice," was adopted. It is interesting to note that this first convention, though planned only for and by women, attracted a number of men and was presided over and officered by men.

The declaration was modeled on the Declaration of Independence and was rather a remarkable document. It stated that the history of mankind was one of "repeated injuries and usurpations on the part of man toward woman, having in direct object the establishment of an absolute tyranny over her"; that he had "never allowed her to exercise her inalienable right to the elective franchise"; compelled her to submit to laws in the formation of which she had no voice; withheld rights which are given to the most ignorant and degraded men, both natives and foreigners; made her, if married, in the eye of the law, civilly dead; taken from her all right in property, even

to the wage she earns; made her morally an irresponsible person, as "she can commit many crimes with impunity, provided they be done in the presence of her husband; framed the laws of divorce as to what shall be the proper causes and to whom the guardianship of the children shall be given; and after depriving her of all rights, if single and the owner of property has taxed her to maintain a government which recognizes her only when her property can be made profitable to it." Man was further accused of having "monopolized nearly all the profitable employments, and from those she is permitted to follow she receives but a scanty remuneration," and "closed against her all avenues to wealth and distinction which he considers most honorable to himself." In fact, this declaration accuses mankind of usurping "the prerogative of Jehovah Himself, claiming it as his right to assign for her a sphere of action, when that belongs to her conscience and her God."

The Seneca Falls convention adjourned to meet in 1852 in Rochester, N. Y. There was still no permanent organization, although the real suffrage movement can be definitely dated from this meeting. During the next four years woman's rights meetings were held in various States, and the first State organization was formed in Ohio in 1852, which held annual meetings until the outbreak of the Civil War, continuing at its close until the passing of the suffrage amendment in 1920. The convention at Rochester marked the first meeting of Susan B. Anthony and Elizabeth Cady Stanton, and from that time until the close of their lives they worked shoulder to shoulder for the cause.

Susan B. Anthony, of Quaker descent and brought up in the school atmosphere of Friends, was born in Massachusetts in 1820. At the age of 15 she became a school teacher and continued in that work until she was 30. She was an urgent advocate of the educational advancement of woman and of coeducation, and was one of the committee of men and women to inaugurate a People's College, afterwards merged into Cornell University. Miss Anthony's work had been along the lines of prohibition and abolition of slavery and her appearance in public had been at educational and temperance conventions; but the bitter opposition she encountered when she wished to speak even at educational meetings convinced her that only through enfranchisement could the civic condition of women be improved. From 1852 until the Civil War she worked tirelessly. In 1853 Miss Anthony was one of the women presenting petitions to the New York Legislature for a vote for women on the temperance question and during that year she and the Rev. Antoinette Brown toured the large cities for temperance and for equal civic and political rights. And it was this same Antoinette Brown who stood before a convention of clergymen transformed into a disorderly mob because a woman had been duly elected a delegate.

For the next few years the Nation was torn with the tragic approach of a civil war and both men and women turned from the question of the rights of women to consider those of the Negroes. At its close the suffrage leaders again took up the woman's cause and found, to their dismay, that their former supporters were unwilling to detract from the attention focused upon the former slaves. When the fourteenth amendment to the Constitution was drawn up in 1868, the suffragists were astonished to find that the word "male" had been introduced for the first time in connection with the franchise into the Constitution, thus definitely instead of negatively excluding women.

The first congressional hearing ever granted women was on January 26, 1869, when Miss Anthony and Elizabeth Cady Stanton presented their cause before the District Committee of the Senate, and an appeal was sent to Congress to have the word "sex" included with "race, color, and previous condition of servitude," in order that the discrimination against women might be removed, but the effort failed.

Every setback the women had merely served to strengthen their determination, and out of this preference shown for the Negroes came the formation of the two great national woman suffrage associations. The National Woman Suffrage Association was formed at a convention in New York on May 15, 1869, headed by Elizabeth Cady Stanton and Susan B. Anthony, and the American Woman Suffrage Association was organized in Cleveland, Ohio, with Lucy Stone and Julia Ward Howe as its leaders. The two associations differed chiefly in the matter of policy. Miss Anthony and Mrs. Stanton considered the Federal amendment the most important object to be attained, while the others thought it better to work State by State. The national association, however, gave great assistance to the State campaigns.

There was one great victory for woman's suffrage in 1869. The Territory of Wyoming gave the vote to its women. While but a remote portion of the United States, for 24 years it was the only region where women had equal political rights with men.

Following the rebuff in 1869, each year, as regularly as Congress convened, the women's appeal was put before it and quite as regularly turned down. There were some leading lawyers and suffragists who claimed the women were enfranchised under the provision that "No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States." Therefore, in 1872, Miss Anthony decided to make a test case and with 50 other women registered in Rochester, N. Y., and on November 5 cast her vote. She was arrested and prosecuted by the United States Government and fined. She refused to pay the fine, but she was not imprisoned. Another attempt was made and the matter was carried to the Supreme Court, but it was decided against the women.



DR. ANNA HOWARD SHAW.

One of the presidents of the National Woman's Suffrage Association. Dr. Shaw opened the meetings of the association with prayer for 28 years.



MISS ALICE PAUL.

Chairman of the National Women's Party, and one of the picketers of the White House who was arrested and imprisoned and went on a hunger strike for the suffrage cause.

This ended all hope of securing suffrage saving through an additional amendment, and in 1875 the amendment, just as it was passed 45 years later, was prepared. The first introduction of this amendment in Congress was in the Senate, January 10, 1878, by Senator Sargent of California. It was referred to the Committee on Privileges and Elections, which granted the suffragists hearings on the next two days. It was reported adversely, but in the following year the Hon. George F. Hoar, in presenting a minority report, said:

Either the doctrine of the Declaration of Independence and the bills of right are true, or government must rest on no principle of right whatever, but its powers may be lawfully taken by force and held by force by any person or class who have the strength to do it, and who persuade themselves that their rule is for the public interest. Either these doctrines are true, or you can give no reason for your possession of the suffrage except that you have got it. If this doctrine be sound it follows that no class of persons can be rightfully excluded from their equal share in the government, unless they can be proved to lack some quality essential to the proper exercise of political power.

This was encouraging, but it did not cause the women to pause in their determination to secure what they all supposed would be the sixteenth amendment. At every meeting and on every possible occasion they based their arguments on the American Revolutionists' creed that "Governments derive their just powers from the consent of the governed," and Abraham Lincoln's "Ours is a Government of the people, by the people, and for the people." From 1878 until 1890 the suffrage amendment met with varying success, Miss Anthony undertaking the burden of the work herself until the latter year. Not until January 12, 1915, was the amendment voted upon in the House of Representatives, and then after a day of debate it was defeated, though lacking only 78 votes of the number necessary for its passage.

The Senate had voted on it in March, 1914, when the vote stood 35 in favor to 34 opposed.

In the meantime the two suffrage associations had combined under the name National-American Woman Suffrage Association. Mrs. Stanton was elected president in 1890, with Miss Anthony and Lucy Stone as associates. In 1892 Miss Anthony became president and Dr. Anna Howard Shaw vice president. In 1900, when 80 years of age, Miss Anthony gave up the presidency to Mrs. Carrie Chapman Catt, and in this year the association opened regular headquarters in New York City. In 1904 Mrs. Catt was succeeded as president by the Rev. Anna Howard Shaw, who remained president until 1915 when Mrs. Catt again took up the leadership. Since 1909 the work carried on at the national headquarters in New York City steadily increased in amount and importance, and in December, 1912, the congressional committee of the association established headquarters

in Washington, and from there continued the active campaign for the Federal suffrage amendment. Before the final passage of the amendment the association had become a federation of 63 suffrage organizations in 45 States, and affiliated with the International Alliance, of which Mrs. Catt is also president.

This International Woman Suffrage Alliance was founded in 1902, by Mrs. Catt and is composed of 26 countries, including Tasmania, Queensland, Finland, Norway, Sweden, Denmark, Victoria, Great Britain, Belgium, Iceland, Canada, Italy, Holland, France, Hungary, Poland, Russia, and the new German Republic.

At the close of 1912 nine States had given women the right to vote, and at the close of 1918 seven more had conferred the boon upon their women citizens. A long period of comparative indifference had succeeded that of active persecution, although in 1909 Mrs. Catt organized the New York State Woman Suffrage Party on political lines, and from 1913 to 1915 she organized and directed the New York State campaign. However, women of wealth and influence began to aid the cause, and on the death of Mrs. Frank Leslie, editor and publisher, it was found that her fortune had been left to Mrs. Catt to be used in advancing the suffrage interests. In 1917, Mrs. Catt instituted the Leslie Woman Suffrage Commission, the Leslie Bureau of Suffrage Education, and the Woman Citizen, at that time the only woman's political journal in the United States, with the conviction that it would be possible to gain by education that which had not been secured through persuasion.

Meanwhile, in 1913, the National Woman's Party had been organized with the avowed purpose of concentrating on a campaign of some vigor to secure the Federal amendment. It adopted the policy of holding the party in power responsible for the fate of the amendment and developed a country-wide organization with branches in every State and a well-organized lobby at the National Capital. Its most spectacular demonstration was the picketing of the White House, which lasted from January, 1917, until November of that year, during which time between four and five hundred women were arrested and sentenced to prison terms ranging from four days to six months. Miss Alice Paul, the leader of the party, was among those who went on a hunger strike. Miss Paul, like so many of her sister suffragists, is of Quaker descent, educated in a Quaker school, a graduate of Swarthmore College, and did social service work both in New York and Whitechapel, London. The Woman's Party entered every suffrage State and appealed to the women voters to refuse to return to power the party which had denied suffrage to the women of the nonsuffrage States. Following this campaign the enfranchised women were further roused and organized by a convention of women voters held in San Francisco, by a suffrage special

which toured the Western States, and by the organization in 1916 of a woman's political party with the single plank "suffrage for women."

After this woman's political convention all parties included, for the first time, a suffrage plank in their platforms. Suffrage became a live, political issue.

The amendment passed the House of Representatives January 10, 1918, the first victory since its introduction in the Senate January 10, 1878. It went before the Senate, where it stayed for a year and a half, blocked practically by one vote. This delay deprived the suffragists of the opportunity of bringing the measure before the regular 1918-19 sessions of the State legislatures for ratification, adding to the ratification campaign the difficulty of securing special sessions. In addition, the endeavor to secure the calling of these special sessions met with unexpected obstacles. They were opposed even in the suffrage States because of expense, fear of other legislation, and political quarrels. In the last few States necessary the fight against ratification was the most bitter in the memory of politicians. In spite of this, however, the amendment was ratified at 29 special sessions. In 12 States the vote was unanimous in both houses, and in 9 States unanimous in one house.

The long fight was over. It had cost millions of dollars and years of toil and sacrifice through succeeding generations. At the fifty-first convention of the National Association in Chicago, February 13, of this year, Carrie Chapman Catt stated in her speech referring to the work of the association:

In all the years it has never paid a Federal lobbyist and so far as I know no State has paid a legislative lobbyist. During the 50 years it has rarely had a salaried officer and even then she has been paid less than her earning capacity elsewhere. It has been an army of volunteers who have estimated no sacrifice too great, no service too difficult.

When, so many years ago, Senator Sargent, of California, introduced the amendment for the first time to the Senate of the United States, he said, among other things:

I believe that by the bringing of the intelligence, the virtue, the good intentions possessed by the women of America to the ballot box, we may have better politics, better administration, and government * * * and that an improvement in every direction can be wrought out by the reenforcement of good morals and good intentions

When the suffrage victory was assured, the great woman's suffrage organization, with a membership of something over seventeen and a half million earnest women, instead of being disorganized, was turned into the League of Women Voters. This league was formed not for the purpose of influencing the voters but of educating them. The women were urged to vote with their own parties and according to their own convictions; and among the resolutions passed by the

suffrage association was one which directly bears out the belief of the Senator of so many years ago and, since it is the basis of the strength of the women in American politics, it is worth quoting in full. It says:

Whereas the low standards of citizenship found in the present electorate clearly indicates the need of education in the principles and ideals of our Government and the methods of political procedure: Therefore be it

Resolved, That the National League of Women Voters be urged to make political education for the new women voters (but not excluding the men) its first duty for 1920.

That the nation-wide plan shall include normal schools for citizenship in each county.

That we urge the League of Woman Voters to make every effort to have the study of citizenship required in the public schools of every State, beginning in the primary grades and continuing through the upper grades, high schools, normal schools, colleges, and universities, and that education include not only citizenship but legislation.

The campaign for this educational program is extensive and the women have entered into it with enthusiasm and determination which is bound to bear results. The great significance of the plans presented by the league lies in the fact that they have to do with matters in which women are admittedly experts—in which their experience as mothers, home makers, and as wage earners has developed a distinctive point of view. Child welfare, education, home and high prices, public health and morals, are matters in which women are chiefly interested and in which their political activities will be most keenly felt. One of the most interesting developments, even at this early stage of affairs, is the method the women have taken of keeping track of the promises of candidates and the platforms which they have agreed to support. These platforms are all tabulated at Washington headquarters, and if a candidate is inclined to sit down instead of standing steadfastly upon his preelection avowals he will be immediately reminded of the fact.

There are over 100,000,000 women voters in the world to-day. Besides the United States, women may vote on national questions if they live in New Zealand, where they received the privilege in 1893; in Australia, in 1902; in Finland, in 1906; Norway, in 1907; Iceland, in 1915; Denmark, in the same year; Russia, in 1917; Great Britain, in 1918; Austria, Canada, Czechoslovakia, Hungary, and Poland, in the same year; Sweden, Germany, Holland, Italy, Serbia, Luxemburg, all in 1919; and Costa Rica in 1920. They may vote on provincial questions if they live in Guanajuato, Mexico, where such suffrage was granted in 1917; in East Africa and Rhodesia, where it was granted two years later. South Africa also granted women the right to vote on municipal questions in 1914 and Uruguay in 1919. In Belgium an electoral reform bill, passed in 1919, granted suffrage to widows who have not remarried, and mothers of soldiers killed in battle, or civilians killed by Germans. A woman's suffrage association has been formed in Uruguay and there are three in Argentina.

MEDICAL CONDITIONS IN SOUTH AMERICA¹ ∴ ∴

By WILLIAM J. MAYO, M. D.

IN January and February of 1920 I visited some of the countries and cities of South American for the purpose of observing, superficially it is true, the methods of education and university organization and, more in detail, the medical schools, hospitals, and research institutions. I wished particularly to see, and profit by, attendance on the surgical clinics of the eminent surgeons of these countries. It is my intention briefly to describe a few of the many interesting phases of our trip with the hope of stimulating others to take similar trips, not alone for the purpose of travel and recreation but for the profitable study of the medical conditions of our Latin American neighbors.

Peru is a vast country, half of it unmapped and scarcely explored. Between the Andes and the Pacific lies a narrow strip of land on which there is no rainfall. It has not rained in Lima for 17 years, but the dust and general grime are forgotten in irrigated spots containing beautiful trees and flowers. Lima is $2\frac{1}{2}$ miles from the ocean, with its port at Callao, 8 miles away. The Humboldt antarctic current, flowing along the west coast, keeps the climate pleasantly cool, but condenses the moisture in the air between the coast and the Andes and thus prevents rainfall. The lack of water is painfully apparent in Peru and has much to do with sanitary failures which even the dryness can not overcome. The country is tropical; and while the air is cool in the shade, it is very oppressive on exercise or in the sun. The noon siesta, a custom of the country, undoubtedly is based on human needs, for it recuperates the body from the results of the heat on the tissues, especially the nerve tissues. By dividing the day into two parts, the strain of the most trying hours in the climate of Peru and other tropical countries is reduced, and what might be called a protective neurasthenia, greatly resembling the neurasthenic state seen in the United States, is developed. Certainly the siesta, a two hours' rest in bed after the noon meal, with the removal of day clothing, is useful in the treat-

¹ Excerpts taken from the series of articles by Dr. Mayo published in the Journal of the American Medical Association in July, August, and September, 1920, under the general title "South American Observations." By special permission of the Journal the Bulletin reproduces herewith the portions of the articles dealing with education, medical conditions, hospitals, and surgeons of Peru, Chile, Argentina, and Uruguay, as being of special interest because of the eminence in the medical and surgical world of the distinguished author. Owing to limitations of space Dr. Mayo's interesting historical sketches and observations as to general conditions of the countries had to be omitted. The complete articles have been reprinted in pamphlet form by the American Medical Association, 535 North Dearborn Street, Chicago, Ill.

ment of neurasthenia. In the high valleys between the mountain ranges are fertile plateaus, the home of the Incas. The Amazon River, rising in the Peruvian Andes, has a port at the city of Iquitos in Peru which harbors vessels of considerable size. A railroad is being built connecting Iquitos with the Peruvian coastal plains.

Peru has much to interest the medical sightseer. All through South America the hospitals are of Spanish design, excellent for the tropics. They are usually of one story with high ceilings, large high windows, large porch effects for shade, and surrounded by fine gardens. In Lima are two large charity hospitals. The older, the Hospital de Santa Ana for women and children, boys up to 10 years of age, has a capacity of 300 beds. A large new hospital is now being built to replace this old one, in which the Government expects to install American nurses and American methods for the caring of patients. One of the greatest innovations will be the introduction of wire screens against flies. Hospital Dos de Mayo for men was founded in commemoration of the victory over the Spanish fleet in Callao, May 2, 1866. The independence of Peru had, however, been declared in 1824. This hospital contains 700 beds and is more modern than the Santa Ana Hospital. Miss Soper, a trained nurse from London, has been working courageously for four years to develop a nurses' training school and to improve the nursing and hospital conditions generally. The results of her efforts are beginning to show.

Several cases of verrugas, a disease of the skin peculiar to Peru, were seen in one of the wards of this hospital. The disease is found in the higher Andes and characterized by fever and eruption. The cause is unknown, although it is believed to be the bite of a night insect. Most patients recover, but there are fatal forms, when hemorrhages occur under the skin, forming pustules.

Both the Hospital de Santa Ana and the Hospital Dos de Mayo are maintained, as indeed are all municipal charities, from the public charity fund, which is accumulated by private contributions and public amusements.

The Italians, of whom there are many in Peru, maintain a good hospital, and the French also have a very good hospital of 40 beds. There are a number of private hospitals, notably Dr. Febrie's, which is quite modern in its appointments. Dr. Graña's hospital, with a capacity of 100 beds, now being built on the seashore about 3 miles from Lima, will be the last word in modern construction and equipment. American nurses and a nurses' training school will be installed. There are several excellent hospitals connected with American mines in Peru, with American physicians and nurses.

Lima has 120 physicians, 20 of whom are surgeons. The surgical technic is far in advance of the hospital installation, and the highest praise should be accorded these men for their excellent work, which

is further illustration of the fact that surgical results depend on the surgeon and not on his surroundings. I attended many interesting clinics and saw Dr. Gasañeta, Dr. Aljovín, Dr. Carvallo, Dr. Denegri, Dr. Morales, Dr. Graña, and others doing clean, careful, and skillful surgery. Physicians qualified to do good Roentgen ray and cystoscopic work are needed in Lima.

San Marcos University in Lima, the oldest in the Western Hemisphere, was founded in 1551. Dr. Javier Padro y Ugarteche, president of the university, is a talented, gracious gentleman, fully equal to the duties devolving upon him in the management of this great university, the only one in Peru, with its 4,500,000 inhabitants. The university medical school is also in Lima, and is the only one in Peru; it has about 300 students. The spacious buildings are in beautiful grounds. Dissecting material is ample. The laboratories in charge of Dr. Herculles, professor of bacteriology and pathology, are excellent. There are many unusual and beautifully preserved specimens in the museum of the medical school and in the laboratories. The university impresses one as being in every way a real teaching institution.

Primary school education, a course of six years, is compulsory in Peru. The secondary course of six years has a limited attendance. The medical student must add to the two courses 2 years of science and 7 years of medicine, making in all 19 years of study to obtain a medical degree. The exceptional student can reduce this period two years. Medical students are much alike the world over, and one of their great virtues is their independent spirit, with little respect for tradition or authority. To the medical students Thomas must be the greatest of apostles. Our reception at the medical school by the faculty and the students was most impressive and formal. In reply to some very beautiful eulogies of the United States, Dr. M. with characteristic felicity said that he wished to congratulate the students on the high character and professional attainments of the faculty of medicine. There was no student applause. He then said that he wished to congratulate the faculty on the extraordinary fine body of students they had to teach; and although these remarks were in English, the student applause was uproarious and long continued.

The Peruvian Surgical Association, made up of men distinguished in the profession, have their headquarters in a fine building in Lima. The visitor interested in medicine leaves Peru with a profound respect for its medical profession.

The port towns of Arica, Iquique, and Antofagasta have hospitals, all of which we visited. We visited also a large military and civil hospital in Tacna, situated in a fruitful oasis near the Peruvian boundary. The hospitals of Chile are supported largely by the state. The hospitals at Iquique and Antofagasta are much larger and have better equipment than those at Arica and Tacna. They are under

the direct charge of a progressive Catholic bishop and are managed by French and Italian Sisters. Each hospital has a training school of about 40 nurses, drawn from the lower and poorly educated classes who are really drudges for the sick rather than nurses, and a training school for about 30 midwives. The bulk of the patients in these hospitals are from the outlying nitrate (saltpeter) mines. The buildings are unscreened, and although flies are not usually numerous, they are uncomfortably evident in the medical wards. Water is scarce in this rainless region; it is piped from the mountains long distances and is expensive. Lack of trained nurses, lack of water supply, and lack of screens are the weak features in an otherwise excellent hospital system, but these defects are being rapidly overcome. The great American mining corporations on the coast and inland, such as the Guggenheims, have their own hospitals. These corporation hospitals are screened and thoroughly equipped with American appliances, and have American physicians and trained nurses. Dr. W. F. Shaw, who has had 20 years' experience in the Tropics, is in charge of the Guggenheim hospital.

Valparaiso, a city of about 280,000, has a number of fine hospitals, built with the high ceilings, verandas, and patios typical of the Spanish plan. There are separate hospitals for men and for women, and for children under 10 years of age. All the newer hospitals are built on the general type of the American hospital, with pavilions for men, women, and children; the same operating rooms, laboratories, etc., are used for all. There are pavilions for private patients in which the rates, the cheapest of any in South America, range from \$2.50 to \$10 a day, gold. This includes ordinary nursing and medical care. No fee is charged for operations if they are performed by the surgeon who is paid by the year from the hospital fund. Other surgeons make their own arrangements with patients. The British and American residents maintain a hospital of about 100 beds. It is under the supervision of a British surgeon who, since he has no license to practice in Chile, employs a Chilean licensed physician to act ostensibly as chief. This subterfuge is employed also in some of the large mining hospitals. Needless to say, such arrangements are sources of irritation to the Chilean physician. A hospital is maintained by the German colonists located on a slightly spot on a hill. The attending surgeon is Dr. Münich, grandson of a German colonist, and one of the best surgeons in Chile.

Santiago, the capital and largest city of Chile, is situated at an elevation of 2,000 feet on the river Mapacho, in a valley surrounded by snow-capped mountains. The site of the city is unusually beautiful, and unlike the cities farther north in Chile and Peru, it is blessed with rain. The city government is progressive and excellent. All things considered, Santiago may be said to be the most beautiful residential city on the west coast, if not in South America.

The hospitals in Santiago are very good. The old ones are being remodeled along American lines. The surgeons are doing excellent work. Prof. Lucas Sierra, well known in America, was abroad preparing plans for greater hospital extension. His colleague, Dr. Ammátégui, dean of the medical school, and one of the foremost surgical teachers of South America, was in the city, but expected to leave shortly to join Dr. Sierra on his mission.

There is but one medical school in Chile, and that is in Santiago. The school compares favorably with the medical schools in other countries. Opportunities for English and American physicians in Chile are not alluring. Examinations to qualify for practice are given in Spanish; they are highly technical, and are given under conditions that have not been surmounted by any American physician in recent years. When it is taken into consideration that the school in Santiago has a seven-year course and 1,000 students of whom only about 35 of the senior class succeed in graduating each year, the natural handicap is easily seen. Some of the students who eventually graduate spend 8, 9, or even 10 years in preparation for the final degree. A fine hospital of 700 beds is directly associated with the medical school. The buildings for both institutions are spacious, dignified, and well equipped, and are situated on a large beautiful tract in the heart of the city. We attended a number of interesting surgical clinics and demonstrations. Prof. Noe, who was trained in Italy, showed us some beautiful specimens of *Ancylostoma duodenale* with microscopic slides. This disease was first found in men working in the Simplon tunnel in Switzerland and is endemic in certain mines in Chile. We were also interested in the treatment of anthrax by Lugol's solution, which appeared to be extraordinarily efficient.

The Public Assistance Association in Santiago should be mentioned especially. It is supported by the State and municipal governments, and is under the control of the faculty of the medical school. The association has its own hospital, in which all emergency surgery is done. Ambulance stations are located in different parts of the city centering in one hospital which is in direct communication with the criminal courts. All the postmortem examinations are conducted under the medical jurisprudence department of the medical school, in marked contrast to the inefficient coroner system in the United States. All cases of stabbing, shooting, and accidental injury pass through the hospital, and the student derives the benefit of all medical and legal examinations.

The ambulance service is quite remarkable. This was demonstrated by a call from the Institution of Physical Culture and Therapeutics to one of the most distant stations in the crowded part of the city. The dean stepped to the telephone, put in a call for public assistance and shortly a peculiar, high-pitched horn was heard in the

distance. All traffic stopped at once, and in 2 minutes and 40 seconds an ambulance with two physicians and a nurse in attendance was at the door. Temporary assistance may be had on telephone call day or night in any part of the city by any person, rich or poor, who is sick or in trouble.

The new dental college, connected with the medical school and under the direction of Dr. Germán Valenzuela, professor of maxillo-facial surgery, is an institution which is of interest not only professionally but historically. The equipment is American and is complete in every respect. The instructors are men who have been trained in Philadelphia.

Our reception in Chile was very cordial, and everything possible was done by both the Government and the medical profession to give us information and opportunities to examine their educational institutions, hospitals, and clinics. The medical profession in Chile stands very high in the estimation of the people, and may be said to be the most influential of the professions. The leading medical men have taken post-graduate courses abroad, and many of them are graduates of the best continental schools. The surgeons of Chile are a splendid body of men, and it was a great pleasure to see their work and to study their methods.

Argentina is readily accessible from Chile by the Transandean Railway. The frontier is reached at a height of about 3 kilometers above sea level, at which point the railway tunnels its way through 4 kilometers of mountain range underneath the old pass. The railroad follows the Rio Blanco on the Chilean side by a very sharp ascent and many windings, often uncomfortably close to the edge of the narrow ledge on which it is built. On the Argentine side the descent to the pampas or great alluvial plains which extend from the foot of the Andes approximately 800 miles to the sea is less abrupt, and follows the canyon of the Mendoza River.

At least a third of the 9,000,000 or 10,000,000 people of Argentina live in cities, more than a million and a half in Buenos Aires alone. The country is very fertile, naturally without trees, but eucalyptus, Lombardy poplar, and weeping willows have been planted freely in certain districts. The land resembles that of the Dakotas, and is farmed in very large tracts or estancias. The landowners have become enormously wealthy. Blooded cattle may be seen in herds of many thousands. Argentina, with its rich lands situated largely in the temperate zone, will eventually become the United States of South America.

The general standing of education in Argentina is high. The primary course is five or six years, depending on the ability of the student, and is compulsory. Argentina has 400 school buildings on the American plan, most of them modern and completely equipped, including lunch rooms, where bread and sterile milk are served the

pupils without charge. The second course is six years, but is not compulsory. Modern languages are taught in this course, and the pupils are not considered "educated" until they have acquired at least three, at the present time Spanish, French, and English. One unique feature of the university system in Argentina is the method of control. One-third of the votes are in the hands of the full professors, one-third are in the hands of the junior professors and instructors, and the remainder with the students.

The chief medical school of Argentina is located at Buenos Aires and is a part of the university. The building is a dignified structure and occupies two city blocks. The school has an enrollment of 5,000 students. The course is seven years, but is so rigid, particularly in theoretical branches, that only about one-fourth of the students graduate in this time. Many spend 8, 9, or even 10 years in obtaining their degrees. Approximately two of the seven years, however, are spent on physics and chemistry, studies that are premedical in North America. Public health, dentistry, and veterinary medicine are under the direction of the medical school. Premedical courses in anatomy, chemistry, and fundamental branches are also given at the La Plata University, about 40 kilometers from Buenos Aires. The department of anatomy at La Plata, under the direction of Dr. Pedro Belou, is unusually good. I was much interested in some researches in human and comparative anatomy of the liver and gall bladder which he had under way. The museum of natural history of La Plata is said to be the finest in South America, and we spent a half day with the curator, the venerable Prof. Quevedo, observing its wonders. The anthropological collection is unique.

Many of the 30 hospitals in Buenos Aires are old, but practically are in a process of reconstruction along modern lines. The hospitals have high ceilings, large window spacing, verandas, and gardens, well suited to the Tropics, but they are not screened. Trained nurses, as we understand the term in the north, do not exist in South America. There is only a small middle class from which to draw material for nurses; it is obviously impossible under present conditions to obtain students from the cultured class qualified for such work. However, the general average of education is being raised, and new training schools are being established with American nurses in charge. The records in all the hospitals are extraordinarily good. Few hospitals in America can show records equally well kept.

Almost all the hospitals and charities in Buenos Aires are financed by the Woman's Benevolent Association, which collects and dispenses funds. The municipal authorities are said to be very jealous of this organization, but it is so strong and the money is so well administered that no real objection can be filed against it.

The Rivadavia Hospital occupies almost an entire block of land and is divided into medical, surgical, gynecologic, and maternity

departments. In the museum of the latter are many rare and well-preserved specimens, as well as a very complete and well-selected teaching collection. In the department for children is a fine infants' clinic.

The new medical hospital is under the direction of Dr. Agote. Its organization and its records are models of excellence. Clinical work and investigation of the most extensive and advanced character are being carried on. A detailed description can not be given of all the important features of this institution, but the American student of internal medicine who arranges to spend a year with Prof. Agote will, indeed, be fortunate.

The British Hospital in Buenos Aires has 200 beds. Dr. O'Connor, senior surgeon, well known in the United States by his frequent contributions to American surgical journals, and Dr. Robert Hallahan are the surgeons in charge. Dr. Hallahan, the junior surgeon, was educated in Ireland about 20 years ago. After coming to Buenos Aires he passed the examinations given in Spanish. He is quite American in his methods. Many Americans go to this hospital when they are ill.

One of the most respected of Buenos Aires's notable surgeons is Herrera Vegas, a man of great wealth and philanthropy and an inspiring influence for good in the medical profession. Dr. Vegas speaks four languages fluently. He has contributed to literature several monographs on special surgical subjects, and in conjunction with the eminent surgeon, Dr. Cranwell, is now preparing an important work on hydatid disease. The chapter devoted to hydatids of the lungs will be particularly interesting. A large number of these cases were seen in the several hospitals. Hydatid disease is very common in South America and is thought of whenever a patient presents unusual symptoms. When these cysts occupy the lungs, the fluid can be agitated by motion and the waves can be reproduced in moving pictures. Dr. Vegas has one of the finest private libraries in South America.

Dr. Pedro Chutro, one of the professors of surgery at the medical school, is well known in the United States. He served with the French during the Great War in charge of a large hospital in France, and it is generally conceded that his work was not excelled by that of any other surgeon. At the close of the war he was requested to go to New York to demonstrate in the military hospital there his original methods of dealing with old infected compound fractures with osteomyelitis. Prof. Chutro was decorated by the United States with the distinguished-service medal; he is one of the few foreign surgeons to receive this honor. Dr. Pasman, one of the professors in the medical school, is also well known in the States. All the surgical work we saw in Buenos Aires was good and carried out with character, skill, and precision. The surgeons of Argentina compare favorably with those of any other country in the world.

Uruguay, with 1,500,000 inhabitants, has a great agricultural future. In general the people are like the Argentinians. The public administration is extraordinarily efficient. Montevideo, the capital, has about 500,000 inhabitants. It is a clean, attractive city, with streets well paved in the outskirts and many fine parks, boulevards, and suburban seaside resorts. It is considered by many travelers the most beautiful and healthful residence city on the east coast of South America. One of the boulevards, extending 8 miles along the ocean, is named for President Wilson. The city is 100 miles below Buenos Aires on the outlet of the La Plata River, which forms the southern boundary, the ocean forming the eastern boundary.

The primary school course in Uruguay is five years and the secondary course six years. The medical school, part of the University of Uruguay, is a large ornate and dignified building. Six hundred students are enrolled, and the graduating classes number from 60 to 70. The course in medicine is seven years. The medical school has a fine library. The laboratory facilities and equipment are excellent and there is ample material for dissection. Postmortems are permitted on all patients dying in the hospitals.

The hospitals in Montevideo are modern and equal to any in South America. The older hospitals are built in the Spanish pavilion style, usually one story, with gardens between the pavilions. The new hospitals are several stories high. Here, as elsewhere in South America, there are few trained nurses and an absence of screens. With the exceptions of the hospitals maintained by the colonies from various countries, those in Uruguay are supported by the Government. Accommodations are provided for pay patients, and the price of rooms in the private pavilions ranges from \$3 to \$6 a day. One beautiful hospital (for women) is under the direction of Dr. Pan Orfila, a noted surgeon. The Italians have a very beautiful hospital with many interesting features. To prevent flies from entering the operating rooms, persons pass from the main corridor through a small anteroom with blue glass ceiling, sides, and door. It has been demonstrated that flies will not pass through this blue-lighted space.

The chief surgeon of the British Hospital, Dr. García Lagos, professor of surgery in the Government medical school, is particularly interested in the surgery of the stomach. He has developed a method of dealing with gastrojejunal ulcers and hemorrhages from the gastro-enterostomy opening by making an incision in the anterior wall of the stomach, drawing the gastro-enterostomy completely through, and then proceeding according to the necessity of the case. I have employed this method twice in emergency, such as hemorrhage immediately after gastro-enterostomy, but have never used it in the manner described by Dr. García Lagos for a direct attack on chronic conditions involving the stomach. It would appear to have merit in suitable cases. Dr. E. Pouey, the leading gynecologist of

Uruguay, has a fine hospital for women, just completed by the university. Dr. A. Navarro, another prominent surgeon of South America, has splendid hospital facilities and surgical material.

During the Great War Uruguay stood staunchly with the United States, and her President, Senor Baltasar Brum, a brilliant young statesman, and the able foreign minister made decisions which will be permanent additions to international law; in substance, first, that a republic fighting for her sovereign rights is not a belligerent and has the right of asylum and protection from all republics, and second, that when the United States is forced into war to protect her rights she is protecting the rights of all republics, and all republics become parties to the conflict. Uruguay promptly followed the United States in declaring war on the Central Powers.

I have been asked a number of times, "Do you mean to say that all the surgeons of South America are of this high grade of which you speak?" I can only answer that all the work I saw was high grade, but I saw only the best men, and not by any means all the best men. Relatively the comparison with other countries is a fair one. As I have traveled at home and abroad year after year to see surgical work and learn surgery by direct observation of the surgeons and their clinics, I have seen only the best. And why should I do otherwise? If I wanted merely to see bloodshed, that could be seen at the stockyards; if I were looking for poor work, that could be seen at home. Since the object of travel is primarily self-improvement, time should not be wasted looking for things done badly and for things to criticize.

I learned much in the short time I was in South America, not only of surgical conditions as they are seen in the United States but of the surgical complications of so-called tropical diseases. Many of the diseases are tropical in the sense that they exist as yet only in the Tropics, probably because easy means of communication to other countries have heretofore been lacking. In the future we can expect them to spread from one country to another. Such diseases are to be found in the northern islands of Japan under climatic conditions similar to those in the northern part of the United States and in Canada. There is a rare opportunity for our medical men to study these diseases in South America and to learn from the experience of the medical profession there how best to care for them. In like manner the physicians of South America may learn from us with regard to the forms or phases of diseases in North America. Exchange of professors and exchange of students will mean much to the health conditions of both continents. The medical profession of South America will be glad to undertake such cooperation. The Spanish edition of *The Journal of the American Medical Association* is having a great deal of influence in establishing closer relations between the medical profession throughout Central and South America.

THE AMERICAN REPUBLICS AND THE LEAGUE OF NATIONS :: :: :: ::

THE following American Republics, as allied and associated powers, were represented at the Versailles peace conference that concluded the treaty signed on June 28, 1919: Bolivia, Brazil, Cuba, Ecuador, Guatemala, Haiti, Honduras, Nicaragua, Panama, Peru, the United States, and Uruguay. As signatories of that treaty, these Republics were to be regarded, upon their ratification of the treaty, as original members of the League of Nations. The following American Republics, not allied and associated powers, were invited to become original members also, by acceding without reservations to the covenant of the League of Nations: The Argentine Republic, Chile, Colombia, Paraguay, Salvador, and Venezuela. The cases of Costa Rica, the Dominican Republic, and Mexico were reserved for further action.

The following American Republics have ratified the treaty, Bolivia, on November 16, 1919; Brazil, on November 11, 1919; Cuba, on December 17, 1919; Guatemala, on October 2, 1919; Haiti, on June 2, 1920; Nicaragua, on April 5, 1920; Panama, on January 8, 1920; Peru, on November 19, 1919; and Uruguay, on October 23, 1919 (sanctioned by the Senate October 15, 1919, decree dated October 23, 1919); and those acceding to the covenant of the League of Nations being the Argentine Republic, on July 18, 1920; Chile, on November 4, 1919; Colombia, on February 16, 1920; Paraguay, on December 26, 1919; Salvador, on March 10, 1920; and Venezuela, on March 3, 1920.

Of the countries that have ratified the treaty, the following have not yet (Dec. 15, 1920) deposited the ratification in Paris, as provided in the text of the treaty, and have not therefore attained to membership in the league: Nicaragua and Panama.

The American Republics, members of the League of Nations, that sent delegations to the first meeting of the assembly of the league, convened at Geneva on November 15, 1920, were: The Argentine Republic, Bolivia, Brazil, Chile, Colombia, Cuba, Guatemala, Haiti, Paraguay, Panama, Peru, Salvador, and Venezuela.

Costa Rica sent a delegation to the assembly of the League of Nations for the purpose of applying for admission to the league.

As specified in article 4 of the covenant of the League of Nations, the council of the league shall consist of representatives of the prin-

principal allied and associated powers, together with representatives of four other members of the league. These four members of the league shall be selected by the assembly from time to time in its discretion. Brazil was the only American Republic selected by the makers of the covenant under that proviso to have a representative in the council, together with Belgium, Spain, and Greece, until the appointment of the representative of the four members of the league first selected by the assembly. Brazil has been represented in the council of the League of Nations by M. Gastão da Cunha, ambassador of Brazil in Paris.

LATIN AMERICAN FOREIGN TRADE IN 1919---GENERAL SURVEY

THE foreign commerce of the twenty Latin American Republics for the year 1919 amounted to \$5,064,588,740, an increase of \$1,161,420,834 over the preceding year. Imports increased from \$1,494,131,101 in 1918 to \$1,934,747,794 in 1919, and exports from \$2,409,036,805 to \$3,129,840,946.

All Latin America—10 years' trade.

	Imports.	Exports.	Total.
1910.....	\$1,058,660,249	\$1,286,201,210	\$2,344,861,459
1911.....	1,159,490,516	1,283,232,640	2,442,723,156
1912.....	1,242,512,578	1,573,533,307	2,816,045,885
1913.....	1,321,861,199	1,552,750,952	2,874,612,151
1914.....	907,841,133	1,275,312,612	2,183,153,745
1915.....	809,925,700	1,658,469,301	2,468,395,001
1916.....	1,040,662,174	1,866,966,627	2,907,628,801
1917.....	1,367,211,849	2,062,424,202	3,429,636,051
1918.....	1,494,131,101	2,409,036,805	3,903,167,906
1919.....	1,934,747,794	3,129,840,946	5,064,588,740

In comparing the figures above one must not lose sight of the great increases in commodity prices beginning about the second year of the war (1915) and continuing through 1919. The increase in Latin American imports, comparing 1913 with 1919, of over \$600,000,000 is a price increase and not a quantity increase. On the side of exports there has been a small increase in quantities, but this quantity increase accounts for only a small part of the 100 per cent increase in values shown above.

Neither on the side of imports nor of exports have the increases in prices been the same as to all products. In some cases the advances have been very large, in others not so large; but there was more uni-

LATIN AMERICAN FOREIGN TRADE IN 1919—A GENERAL SURVEY.

Countries.	Imports.			Exports.			Total foreign trade.		
	1918	1919	Increase.	1918	1919	Increase.	1918	1919	Increase.
	Mexico.....	\$82,235,019	1 8132,589,353	\$50,354,334	\$183,652,725	1 8212,231,209	\$28,578,484	\$265,887,744	1 8344,820,562	$78,932,818
Guatemala.....	6,634,000	11,230,819	4,596,819	11,319,000	22,419,134	11,100,134	17,953,000	33,649,953	15,696,953
Salvador.....	6,142,707	14,958,196	8,815,489	17,359,725	16,745,290	2,614,435	23,502,432	31,703,486	8,201,054
Honduras.....	4,784,449	6,931,376	2,146,927	5,733,662	5,998,940	265,278	10,518,111	12,930,316	2,412,205
Nicaragua.....	5,929,803	7,912,653	1,982,850	7,754,940	12,409,472	4,654,532	13,684,743	20,322,125	6,637,382
Costa Rica.....	3,735,023	7,517,989	3,782,966	9,623,874	17,748,855	8,124,961	13,358,897	25,266,824	11,907,927
Panama.....	7,821,690	11,406,880	3,585,220	2,890,557	3,757,028	857,471	10,721,217	15,163,908	4,442,691
Cuba.....	297,622,214	357,576,522	59,954,808	413,325,249	572,910,373	159,585,124	710,947,463	930,486,985	219,539,432
Dominican Republic.....	19,736,152	22,019,127	2,282,975	22,379,344	39,601,892	17,229,548	42,108,496	61,621,019	19,512,523
Haiti.....	1 10,500,000	1 18,500,000	1 8,000,000	1 11,000,000	1 15,500,000	1 4,500,000	1 21,500,000	1 34,000,000	12,500,000
North American Republics.....	445,141,027	590,642,915	145,501,888	685,041,076	919,322,173	234,281,097	1,130,182,103	1,509,965,088	379,782,985
Argentina.....	485,582,000	636,099,125	150,517,125	777,358,000	1,000,036,300	222,678,300	1,262,940,000	1,636,135,425	373,195,425
Bolivia.....	13,601,092	1 13,000,000	3 601,092	71,219,012	1 75,000,000	3 780,988	84,820,104	1 88,000,000	3 179,896
Brazil.....	247,351,151	346,907,226	99,556,075	284,275,088	566,467,038	282,191,970	531,626,219	913,374,264	381,748,045
Chile.....	159,167,034	146,483,331	12,683,703	291,863,277	115,696,637	176,166,620	451,030,311	262,179,988	188,850,323
Colombia.....	22,034,094	48,487,764	26,453,670	37,828,559	79,029,256	41,200,697	59,762,563	127,517,020	67,754,457
Ecuador.....	8,111,690	11,667,736	3,556,046	13,364,774	21,005,143	7,640,369	21,476,464	32,672,879	11,196,415
Paraguay.....	10,720,073	15,360,890	4,640,817	11,057,721	14,371,633	3,313,912	21,777,794	26,732,523	4,954,729
Peru.....	47,169,849	59,310,662	12,140,813	47,068,812	130,731,191	83,662,379	144,203,661	196,044,863	45,808,192
Uruguay.....	39,822,176	43,758,145	3,935,969	20,249,289	153,181,555	32,932,266	169,071,465	126,969,700	36,898,233
Venezuela.....	15,464,065	3 23,000,000	7,565,935	19,813,217	3 35,000,000	15,186,783	55,247,222	3 78,000,000	42,752,778
South American Republics.....	1,048,990,074	1,344,104,879	295,114,805	1,723,995,729	2,210,518,773	486,523,044	2,772,985,803	3,554,623,652	781,637,849
Total Latin America.....	1,494,131,101	1,934,747,794	440,616,693	2,409,036,805	3,129,840,946	720,804,141	3,903,167,906	5,064,588,740	1,161,420,834

1 Estimate.

2 Decrease.

3 Estimate in part.

formity in imports than in exports. Of Latin America's chief export products there have been large price advances since 1913, in some cases much over 100 per cent—in sugar, meats, and grain. On the other hand, metals, coffee, and tobacco show much smaller advances. Some new export trades have developed; especially is this true of the dairy products, butter and cheese, and of beans and edible fats.

IMPORTS.

In general.—There is much uniformity in the general character of imports into all the 20 countries. What one imports, with few exceptions, all import. What Mexico and Cuba want and buy, Argentina and Paraguay also want and buy. This is because none of the countries can properly be considered as manufacturing countries and their chief needs are for such products.

Textiles.—There is a considerable manufacture of cotton and a lesser of woolen textiles in Brazil, Argentina, and Chile, Colombia, Mexico, and elsewhere; but nowhere does the manufacture equal the domestic demand. All of the countries are purchasers, and in large quantities, of piece goods, ready-made clothing, and articles of domestic use. Some, especially Brazil, Mexico, Argentina, and Chile, import yarns in considerable quantities. The same countries import cotton belting, and so do others, Peru, Colombia, and Cuba, especially.

Machinery.—There is considerable diversity in machinery imports. The countries engaged in manufacture of textiles, furniture, wagons, and carriages, leather goods, and those having special export industries which require an elaboration of raw products, import machinery and tools suitable for such manufacture or elaboration. Mill machinery is salable in Argentina, Brazil, Chile, and Mexico, and to a lesser amount in Uruguay, Colombia, Venezuela, and Cuba. Boot and shoe making machines are imported by practically all the countries, and so are small hand-power machines for household, farm, and mechanic's use. Railway, tramway, electric lighting, docking and motor-boat machinery, material, and repair parts, are imported by all the countries. In agricultural machinery, Argentina, Uruguay, Brazil, and Chile import wheat, corn, and hay planting and reaping tools, power and horse drawn. There is a small importation of the same class of tools into all the other countries. Cuba, the Central American countries, Mexico, Peru, Brazil, Dominican Republic, Haiti, Venezuela, and Argentina, are the countries chiefly interested in sugar-mill machinery and tools for working the cane fields. Brazil, Colombia, the Central American countries, Venezuela, Haiti, Ecuador, and Mexico import machinery for treating, clearing, and handling coffee and cacao. Argentina, Uruguay, Paraguay, Chile, Mexico, and Colombia import machinery for meat packing. Other countries are about beginning the same business and will need the same machinery. Machinery for wine making, brewing, and distilling sells in all the countries. Mining machinery has its chief sale in Mexico, Peru, Chile, Bolivia, Colombia, Central America, and Ecuador.

DISTRIBUTION OF TRADE—IMPORTS.
LATIN AMERICAN IMPORTS FROM LEADING COMMERCIAL COUNTRIES.

Countries.	Total from all countries.		United Kingdom.		France.		Spain.		United States.	
	1918	1919	1918	1919	1918	1919	1918	1919	1918	1919
Mexico.....	\$82,235,019	1 \$132,589,353	\$4,787,725	1 \$7,500,000	\$1,635,928	1 \$2,000,000	\$984,577	1 \$1,000,000	\$70,576,314	1 \$96,000,690
Guatemala.....	6,634,000	11,230,819	1,500,000	2,037,305	1,115,000	235,446	1,350,000	1,400,000	1,400,000	8,083,356
Salvador.....	6,142,707	14,985,196	1,560,348	1,610,005	1,435,739	242,938	30,925	30,925	3,455,383	9,063,595
Honduras.....	4,784,449	6,981,376	1,300,000	1,300,000	28,855	130,000	1,200,000	1,150,000	4,358,492	16,500,000
Nicaragua.....	5,929,803	7,912,653	596,809	689,721	154,324	146,330	7,990	33,190	4,680,057	6,687,712
Costa Rica.....	3,735,023	7,517,989	294,007	569,864	63,018	73,676	24,222	102,473	2,162,407	5,891,096
Panama.....	7,821,600	11,406,880	666,913	791,140	25,975	99,871	39,226	54,350	6,351,175	9,359,486
Cuba.....	297,622,214	357,576,522	9,154,567	8,746,505	7,044,221	9,905,719	10,392,529	15,911,198	222,262,276	272,192,946
Dominican Republic.....	19,736,152	22,019,127	529,351	346,217	99,084	171,900	48,795	125,981	17,037,041	18,113,304
Haiti.....	110,500,000	118,500,000	1,750,000	1,800,000	1,500,000	1,450,000	1,400,000	1,800,000	1,900,000	116,200,000
North American Republics.....	445,141,027	590,642,915	20,115,922	23,390,757	9,812,144	13,355,880	11,633,364	17,429,354	344,433,155	448,091,495
Per cent of imports.....	100.00	100.00	4.51	3.96	2.20	2.26	2.61	2.95	77.37	75.86
Argentina.....	485,582,000	636,099,125	121,250,000	149,844,153	25,220,000	25,112,231	40,546,000	45,087,567	164,415,000	225,882,346
Bolivia.....	13,601,092	113,000,000	1,016,539	1,200,000	263,798	1,900,000	242,396	1,200,000	4,411,372	14,000,000
Brazil.....	247,351,151	346,907,226	50,469,450	56,041,440	11,836,983	13,137,800	4,371,617	3,829,020	88,982,703	166,532,860
Chile.....	159,167,034	146,483,331	29,727,640	29,000,000	5,037,314	15,000,000	4,420,889	14,000,000	74,259,949	160,000,000
Colombia.....	22,034,004	48,437,704	5,934,636	18,000,000	697,472	11,000,000	1,121,491	1,200,000	12,497,707	129,000,000
Ecuador.....	8,111,690	11,697,736	1,910,815	1,531,691	158,755	312,909	139,095	252,649	4,632,761	8,146,152
Paraguay.....	10,720,073	15,300,692	2,293,811	3,793,443	121,697	121,379	630,799	648,900	1,762,622	2,632,670
Peru.....	47,168,849	59,310,602	7,612,641	7,999,302	655,303	743,667	987,985	1,351,756	25,605,722	36,691,323
Uruguay.....	39,822,176	43,788,145	6,715,737	7,512,506	1,307,162	1,341,471	2,508,834	2,979,518	9,809,806	15,571,451
Venezuela.....	15,434,005	123,000,000	4,322,602	15,000,000	1,341,730	1,400,000	432,424	1,550,000	8,867,312	115,000,000
South American Republics.....	1,048,990,074	1,344,101,879	231,856,871	270,922,535	45,640,214	47,559,457	55,401,530	60,899,500	394,944,945	563,456,802
Per cent of imports.....	100.00	100.00	22.10	20.15	4.35	3.53	5.28	4.53	37.65	41.92
Total of the 20 Republics.....	1,494,131,101	1,984,747,794	251,972,793	294,313,292	55,452,358	60,915,337	67,034,894	78,328,854	739,378,100	1,011,548,297
Per cent of imports.....	100.00	100.00	16.86	15.21	3.71	3.14	4.48	4.04	49.48	52.28

1 Estimate.

DISTRIBUTION OF TRADE—EXPORTS.
LATIN AMERICAN EXPORTS TO LEADING COMMERCIAL COUNTRIES.

Countries.	Total from all countries.		United Kingdom.		France.		Spain.		United States.	
	1918	1919	1918	1919	1918	1919	1918	1919	1918	1919
	Mexico.....	\$183,652,725	1,821,231,209	\$2,186,313	1,860,000,000	\$3,006	1,850,000	\$827,705	182,000,000	\$175,037,172	1,160,000,000
Guatemala.....	17,319,000	22,419,134	200,000	1,400,000	300,000	1,250,000	150,000	1,500,000	18,100,000	113,500,000
Salvador.....	17,359,725	16,745,290	141,288	159,663	74,642	6,181,334	506,225	24,384	14,765,870	8,340,208
Honduras.....	5,733,662	5,998,940	970	36,716	1,598	5,429,310	5,512,465
Nicaragua.....	7,754,940	12,409,472	2,000	437,512	3,534,163	40,637	6,103	6,412,921	7,663,827
Costa Rica.....	9,623,874	17,748,885	166,873	6,433,953	.....	147,315	.....	8,705,786	9,811,556
Panama.....	2,809,557	3,757,028	45,940	239,764	.....	.....	.....	2,846,238	3,492,788
Cuba.....	413,325,219	572,910,373	95,149,519	82,521,828	5,656,957	23,041,878	6,776,676	8,243,963	294,665,337	
Dominican Republic.....	22,372,344	39,601,892	412,781	223,352	681,880	4,051,631	793,400	634,972	18,170,291	
Haiti.....	111,000,000	115,500,000	1,100,000	180,000	1,300,000	1,300,000	1,200,000	1,200,000	1,675,000	
North American Republics.....	685,041,076	919,322,173	98,404,744	96,496,542	9,816,485	43,393,037	9,222,479	11,880,219	540,882,925	
Per cent of exports.....	100.00	100.00	14.36	10.49	1.43	4.74	1.34	1.29	78.95	
Argentina.....	777,358,000	1,000,036,300	296,626,000	2,340,000,000	109,678,321	1,120,000,000	23,086,000	24,000,000	160,147,000	
Bolivia.....	71,219,012	175,000,000	35,500,841	135,000,000	1,078,321	11,200,000	16,683	1,200,000	29,636,799	
Brazil.....	284,273,068	566,467,068	28,700,530	41,015,520	25,604,110	120,586,180	6,355,267	9,121,840	98,474,076	
Chile.....	291,863,277	115,686,657	66,475,572	121,000,000	1,548,062	1,500,000	7,771,462	1,200,000	178,483,083	
Colombia.....	37,228,559	79,029,256	281,728	1,500,000	1,778,361	11,000,000	554,764	1,200,000	31,134,004	
Ecuador.....	13,364,774	21,065,133	949,467	3,531,236	5,222	4,173,253	330,238	683,080	10,429,150	
Paraguay.....	11,057,721	15,371,633	68,726	670,426	781,930	1,290,000	1,122,701	1,550,380	903,865	
Peru.....	97,066,812	130,731,191	30,785,558	41,024,922	66,806	1,885,685	24,510	77,818	45,192,949	
Uruguay.....	120,249,289	153,181,555	27,061,291	28,168,243	29,323,832	39,011,519	21,132,609	2,755,115	24,173,670	
Venezuela.....	19,813,217	255,000,000	3,285,652	2,650,000	1,943,311	2,900,000	1,720,357	3,000,000	8,888,636	
South American Republics.....	1,723,955,729	2,210,518,773	490,341,395	518,410,017	161,749,961	299,232,050	55,114,991	42,608,233	587,463,282	
Per cent of exports.....	100.00	100.00	28.44	23.45	9.38	13.53	3.19	1.92	34.07	
Total of the 20 Republics.....	2,409,036,805	3,129,840,946	588,746,139	614,906,559	171,566,446	342,825,087	64,337,400	54,488,452	1,128,346,207	
Per cent of whole.....	100.00	100.00	24.43	19.64	7.12	10.95	2.67	1.74	46.83	

* Estimated in part.

† Estimate.

Motor vehicles and motor boats.—Imported by all the countries. Very large trade in Cuba, Argentina, Brazil, and Chile.

Animals for breeding.—Improved stock of cattle, horses, hogs, sheep goats, and poultry are imported or will be in all the countries. Argentina, Uruguay, Chile, and Brazil are especially interested. Interest in hogs is chiefly in Argentina.

Food products.—In food products there is a greater diversity in imports as between the countries than in any other class of goods. Flour, wheat, corn, staple meats, and dairy products are not imported by Argentina, Uruguay, Paraguay, and Chile. The first two mentioned countries are large exporters. All the other countries import these products, especially wheat and flour. Highly elaborated foods such as fancy biscuits, canned and bottled goods, are imported by all countries. Sugar is imported by Argentina, Uruguay, Chile, and Bolivia.

Furniture and wood manufactures.—Imported by all the countries.

Leather goods.—Imported by all the countries.

Glass and chinaware.—Imported by all the countries.

Carriages and horse-drawn vehicles.—Imported by all, but usually in unfinished state.

Nearly all other products of manufacture in completed state are imported by all the countries.

EXPORTS.

The exports of the Latin-American countries, while large in volume and of great value, are comparatively few in number and they differ much among the 20 countries.

The principal exports of the countries are as follows:

Mexico.—Gold, silver, antimony, mercury, copper, lead, zinc, mineral oils, sisal, hides, and skins. There are some exports of rubber, woods, peas, and beans.

Guatemala.—Coffee, hides, woods, bananas.

Salvador.—Coffee, silver, bananas.

Nicaragua.—Coffee, woods, rubber, sugar.

Costa Rica.—Coffee, bananas, gold, silver.

Panama.—Bananas, ivory nuts, coconuts, rubber.

Cuba.—Sugar, molasses, distillates, tobacco, iron and copper ore, woods, fruits, hides, and skins.

Dominican Republic.—Sugar, cacao, tobacco, coffee, bananas, and hides.

Haiti.—Coffee, cacao, honey, cotton, cotton seed, and logwood.

Argentina.—Frozen beef and mutton, hides, wool, sheepskins, goat-skins, bristles, canned meats, beef scrap, tallow, butter, grease, bones, wheat, flour, corn, linseed, oats, hay, bran, and quebracho.

Bolivia.—Tin, silver, bismuth, copper, rubber, coco, wolframite.

Brazil.—Coffee, rubber, beef, hides, yerba mate, cacao, tobacco, skins, sugar, gold, manganese, cotton, cotton seed, bran, monazite sand.

Chile.—Nitrate of soda, iodine, copper, silver, fruits and grains, beans, hides, wool, furskins.

Colombia.—Coffee, bananas, cattle, tobacco, ivory nuts, rubber, cacao.

Ecuador.—Cacao, ivory nuts, rubber, coffee, gold, hides.

Paraguay.—Hides, beef, quebracho, yerba mate, tobacco, fruits.

Peru.—Copper, vanadium, wolframite, mineral oils, rubber, sugar, cotton, wool, guano, hides.

Uruguay.—Wool, hides, beef, tallow, hair, wheat, flour.

Venezuela.—Coffee, cacao, rubber, hides, goatskins, gold, meats, copper, sugar.

DISTRIBUTION OF TRADE.

In the four years before the war—viz, 1910, 1911, 1912, and 1913—the total trade of Latin America, exports and imports, with the United States was \$3,053,000,000; with the United Kingdom, \$2,383,000,000; with Germany, \$1,473,000,000; and with France, \$874,000,000.

For the four years of the war—1915, 1916, 1917, and 1918—the trade was, with the United States, \$6,160,000,000; with the United Kingdom, \$2,562,000,000; and with France, \$817,000,000. Trade with the United States more than doubled, with the United Kingdom increased about 6 per cent, with France decreased about the same per cent, and practically ceased with Germany.

This was for the total trade, but there was a marked difference between exports and imports, as the following tables show:

Latin American exports.

To—	1910-1913	1915-1918	Increase.
			<i>Per cent.</i>
United States	\$1,893,000,000	\$3,766,000,000	99
United Kingdom	1,178,000,000	1,750,000,000	49
Germany	687,000,000	.....	.....
France	477,000,000	622,000,000	30

Latin American imports.

From—	1910-1913	1915-1918	Increase.
			<i>Per cent.</i>
United States	\$1,160,000,000	\$2,391,000,000	106
United Kingdom	1,205,000,000	812,000,000	¹ 33
Germany	786,000,000	.....	.....
France	397,000,000	195,000,000	¹ 51

¹ Decrease.

In short, during the war exports, raw materials and food products, increased to all countries, but largest to the United States. Roundly

speaking, coffee, cacao, and sugar were the only food exports to the United States. The remainder was wool, hides, oils, minerals, flaxseed, etc. Meat, wheat, beans, etc., went to England and France.

On the import side United States goods were imported, by values, more than doubled, while British goods fell off one-third and French one-half. These facts show the immediate result of the war.

But all the localities were not affected alike. Let us divide Latin America in two groups, as in the larger tables herewith. For the northern group, including the countries from Panama north, the figures are:

Exports—Northern group.

To—	1910-1913	1915-1918	Increase.
			<i>Per cent.</i>
United States.....	\$1,055,000,000	\$1,756,000,000	66
United Kingdom.....	152,000,000	366,000,000	141
Germany.....	108,000,000	.....	.....
France.....	74,000,000	67,000,000	19

¹ Decrease.

The large increase in exports to the United Kingdom was due to oil from Mexico and sugar from Cuba.

The southern group includes all the Republics of South America.

Exports—Southern group.

To—	1910-1913	1915-1918	Increase.
			<i>Per cent.</i>
United States.....	\$838,000,000	\$2,010,000,000	140
United Kingdom.....	1,026,000,000	1,384,000,000	35
Germany.....	580,000,000	.....	.....
France.....	402,000,000	555,000,000	38

The increases to France and England are accounted for on the base of advanced prices of meat and grain. There was no increase in export by quantities. The increase to the United States represents an advance in prices and also an increase in quantities of wool nitrate, hides, metals, and flaxseed.

Imports—Northern group.

From—	1910-1913	1915-1918	Increase.
			<i>Per cent.</i>
United States.....	\$597,000,000	\$1,179,000,000	97
United Kingdom.....	142,000,000	115,000,000	¹ 18
Germany.....	108,000,000	.....	.....
France.....	74,000,000	47,000,000	¹ 37

¹ Decrease.

England and France maintained the leading position in the textile trade, but in most other lines imports from these countries fell to little or nothing. The imports from the United States in nearly all

lines increased in quantities, but advances in prices account for the greater part of the 97 per cent increase above.

Imports—Southern group.

From—	1910-1913	1915-1918	Increase.
United States.....	\$563,000,000	\$1,215,000,000	<i>Per cent.</i> 116
United Kingdom.....	1,063,000,000	697,000,000	134
Germany.....	677,000,000	.....	.....
France.....	323,000,000	148,000,000	154

¹ Decrease.

The condition as to imports was the same as in the northern group. British and French imports fell off to a large extent, notwithstanding the advances in prices, except in the line of textiles, where the trade on the whole was kept. Imports from the United States increased to a small degree in quantity and to a much larger extent in values.

TRADE OF 1919.

The expectation entertained by many that the close of hostilities would at once work a transformation in Latin American trade was not realized in 1919. The effect of the war in diverting trade from one country to another was less than was popularly supposed it would be. Except in the case of the central European countries, Germany and Austria-Hungary, there was no great upheaval. These central European countries were shut off by an effective blockade; otherwise trade functioned with less disturbance than was, or might have been, anticipated. In fact, the war accentuated and brought into relief the facts in regard to the currents of Latin American trade that had worn channels for themselves from times far antedating the war. These currents primarily followed the progress of economic development in the United States and in western Europe. Latin America before the war sent its products to those countries that most needed them; in other words, to those countries that could make the best economic use of them, and consequently paid the best price. In raw materials for manufacture—rubber, wool, metals, hides, etc.—this country was the United States, with the largest manufacture and the largest consumption. The war did not change, it accentuated this fact.

Latin American foodstuffs, except tropical foods, sugar, coffee, cacao, etc., before the war naturally went almost as a whole to England. The war did not change this economic base fact; all it did was to bring it more into relief.

So on the side of imports, what Latin America buys. Before the war it bought where the goods were best and cheapest; in other words, where there was the most skill in manufacture. The United States was the largest manufacturer in almost all lines, but by no means the best or most skillful in all. Skill in manufacture, re-

flected in quality and price, was the touchstone that opened, and yet opens, the foreign market. This touchstone the United States before the war possessed in many lines, but not in all. In those lines in which superior manufacturing skill existed it had secured predominance in Latin American imports from Mexico to Chile before the war. During the war the increases (largely a matter of advance in prices) were chiefly in the same lines. In the lines where English or French skill had proven greater, England and France, notwithstanding the stress of war, for the most part kept in the field. In the borderland where efficiency and skill in manufacture were about balanced, or only slightly against the United States, it gained at the expense of Europe.

The cessation of hostilities in no way changed fundamental trade channels. Whether the sum total of manufacturing efficiency in the United States has increased, or whether there is any marked decrease in European efficiency, is a question not lightly to be answered. In all probability there has been no pronounced change in comparative efficiencies, and it is the comparison that counts.

German before-the-war trade to Latin America was to a certain extent artificial and founded in part upon an incorrect economic base. It was to a degree politically driven and therefore insecure; but, most of all, it was much smaller than many Americans and British believed. Germany was not gaining on England and most decidedly was not holding its own against United States competition. It could not, no matter what its government might do. Germany was not, and is not, complementary to Latin America in a trade sense. It does not need nor can it utilize Latin American products to the extent England and the United States use them. Especially is it handicapped in this respect when compared with the United States. On the other side (Latin American imports), only in a very few lines, such as dyes, glass, and crockery ware, some textiles, and few metal manufactures (ordinarily of the cheaper kind), has German manufacturing efficiency been pronounced. German manufacture for export fits in with the needs of countries such as England and France, not of countries like Argentina and Mexico.

Germany has not yet come back in Latin America. In all probability Germany will never return to any very prominent place in Latin American trade; not even to the third place (a bad third) it occupied before the war. Even should it attain second place in European manufacture, which it held before the war (first in many lines), it must devote its attention chiefly to Europe. That is its natural field; America is outside.

Let us compare the trade of Latin America with the chief manufacturing countries for 1919, the year after the war, with the trade for the two periods before the war and during the war considered above. Latin American trade by percentages:

NORTHERN GROUP.

[Per cent of whole.]

	Four years before the war.	Four years during the war.	1919.
EXPORTS.			
To United States.....	71.89	72.97	<i>Per cent.</i> 74.18
To United Kingdom.....	10.34	15.19	10.49
To Germany.....	7.34	.....	.08
To France.....	5.07	2.78	4.74
IMPORTS.			
From United States.....	54.07	73.72	75.86
From United Kingdom.....	12.84	7.19	3.96
From Germany.....	9.80	.....	.10
From France.....	6.71	2.90	2.26

SOUTHERN GROUP.

EXPORTS.			
To United States.....	19.81	35.95	34.40
To United Kingdom.....	24.27	24.76	23.45
To Germany.....	13.70	.....	.20
To France.....	9.51	9.93	13.53
IMPORTS.			
From United States.....	15.31	39.03	41.92
From United Kingdom.....	28.90	22.40	20.15
From Germany.....	18.41	.....	.30
From France.....	8.78	4.75	3.53

The German percentages for 1919 are in part estimates. Some German trade was through the Scandinavian countries and Holland, which increases the percentages, perhaps doubles them. It is to be expected that there will be for some years to come a percentage increase in Latin American trade with Europe, especially on the buying (import) side, and Germany beyond doubt will have a part in this. The increases by percentages, beyond any reasonable doubt, will be greater in the case of the United Kingdom, France, Italy, Germany, and perhaps one or more countries than in the case of the United States; but there is no reason, at least no trade reason, to suppose that any European country will ever overtake the United States in this trade. Nothing but an industrial débâcle, such as has occurred in Russia, can ever set the United States back from the position of first in Latin American trade. This position on the Latin American export side it acquired, displacing England, almost a generation ago, as England nearly a century before had displaced Spain. It went to the front on the import side first in 1913, again displacing England. The war did not create this primacy; it existed before the war. The war gave a certain unnatural disproportion that time will gradually correct, but the primacy itself is the result of economic causes operating before the war and little affected thereby. It results from the industrial position of the United States as the largest manufacturing and raw-material consuming country of the world. Except food products of the kind produced in temperate

zones, the total production of raw materials in Latin America and the bulk of tropic foods find their chief market in the United States, and where the chief market is, there the bulk of the goods must go. So, on the other side, where there is the largest and most diversified manufacture, there the buyers must come. The war in no way created nor greatly altered these conditions.

AGRICULTURE, INDUSTRY AND COMMERCE

ARGENTINA.

The 400,000-ton FLOATING DOCK ordered by the Argentine Department of Navigation and Ports, constructed in Germany before the war, has been completed. The Argentine Government has been requested to transport same to its destination.

A Spanish BOARD OF TRADE, Industry, and Navigation has been organized in Rosario for the purpose of strengthening and developing commercial relations between Spain and the northern section of the Argentine Republic.

La Nacion of Buenos Aires reports the discovery of important COAL DEPOSITS in the districts of Rinconadilla and Barrancas, Department of Cochino, Province of Jujuy.

A STOCK FAIR was recently held in Rosario under the auspices of the rural society of that city.

In 1919 there were 144,481 houses in the city of Buenos Aires, 104,413 of which were used for housing purposes. The number of houses erected in Buenos Aires in 1919 was 2,579, as compared with 1,709 in 1918.

The latest estimate of the LIVE STOCK in the Argentine Republic is as follows: Cattle, 25,900,000 head, valued at 3,000,000,000 pesos; sheep, 43,300,000 head, valued at 650,000,000 pesos; horses, 8,300,000 head, valued at 332,000,000 pesos; mules, 565,000 head, valued at 14,125,000 pesos; asses, 260,000 head, valued at 5,200,000 pesos; goats, 4,400,000 head, valued at 9,000,000 pesos; and hogs, 3,000,000 head, valued at 80,000,000 pesos.

From January to the middle of September, 1920, the EXPORTS OF CEREALS from Argentina, in metric tons, were as follows:

Wheat, 4,992,789, as compared with 2,036,223 during the same period of 1919; flax, 764,628, as compared with 618,524 in 1919; maize, 2,759,343, as compared with 1,598,255 during the same period

of 1919; oats, 338,357, as compared with 164,765 in 1919; barley, 47,055, as compared with 15,864 during the same period of 1918; alpiste, 5,129, as compared with 3,405 during the same period of 1919; and flour, 172,969, as compared with 205,240 in 1919.

The output of the Comodoro Rivadavia PETROLEUM DEPOSITS in 1919 aggregated 188,092 cubic meters of oil, or about 5 per cent less than the output of 1918.

BRAZIL.

In 1918 the value of the manufactured products of the State of São Paulo amounted to 556,801,100 milreis (paper milreis = about 25 cents), or an increase of more than 100 per cent over the value of the production of that State in 1914. The principal manufactured articles in the order of their importance were as follows: Textiles, shoes, beverages, hats, clothing, tobacco and its products, matches, preserves, sweetmeats and biscuits, patent medicines, iron-work, china and glassware, and umbrellas and parasols.

A Japanese capitalist recently visited the State of Minas Geraes to investigate the advisability of establishing a factory for the manufacture of SILK FABRICS. Until silkworm cultivation can be established, it is proposed to make use of raw material of similar character obtainable in the Republic. The factory will probably be erected in Minas Geraes or in São Paulo.

In August last the Lloyd Brasileira inaugurated a fast MAIL AND PASSENGER SERVICE between Rio de Janeiro, Santos, and New York. The steamers *Caxias*, *Avare*, and *Curvello* will be employed in this service.

Steps have been taken for the electrification of the CENTRAL RAILWAY OF BRAZIL. A credit of 45,000 contos, or about \$11,000,000, has been opened to cover the cost of changing the motive power from steam to electricity on suburban lines from the Central station in Rio de Janeiro to the stations of Deodoro, Barra do Pirahy, Santa Cruz, Paracamby, and Maritima.

The Brazilian Government has abolished the embargo on EXPORTS OF SUGAR from Brazilian ports. In 1919 the exports of Brazilian sugar amounted to 69,429 metric tons, as compared with 115,634 metric tons in 1918.

The estimated production of sugar in Brazil in 1917-18 was 7,350,000 bags of 132 pounds each. In 1917 Brazil had 215 sugar factories in operation in the Republic. In September last a SUGAR FACTORY commenced operations at Belem, near Porto Alegre, State of Rio Grande do Sul. The factory is located in a region where large sugar plantations exist.

Reports from London state that a British mission will soon visit Brazil to report upon the advisability of the investment of English

capital in the development of the COTTON INDUSTRY of the country.

The following companies have been AUTHORIZED TO DO BUSINESS in the Republic: J. G. White Commercial Co. (Ltd.); Overseas Exporters Co. (Ltd.); Produce & Warrant Co. of Brazil; and the Ararangua Brazilian Coal Co.

A concession for the development of the WATERFALLS on the Preto River, State of Rio de Janeiro, and the waterfalls of the Ayruoca River, State of Minas Geraes, was recently granted to a company organized for the purpose.

In 1920 ships to the number of 1,015, representing 2,169,552 tons, entered the port of Santos, and 1,019 vessels, representing 2,177,218 tons, departed from that port. In 1919 the vessels entering numbered 843, representing 1,416,825 tons, and the departures were 822, representing 1,392,688 tons.

CHILE.

The Pacific Steam NAVIGATION CO. and the Toral Packet Co. have merged their interests, and propose to improve their service between England, the United States, and Chile. A number of well-equipped modern vessels will be used in this traffic.

The GRAPHITE & COPPER CO. of Vallenar has been organized, with a capital of 1,500,000 pesos, to exploit the Vallenar graphite mines. Experiments have shown that graphite can be used instead of coke in the smelting of copper ores, and the company proposes to market it for this purpose.

A group of American capitalists have arranged to establish a system of TELEPHONE communication throughout the Republic with head offices in Valparaiso. The Antofagasta Federico Clarke concession has been taken over, and the company has obtained the permission of the Chilean Government to operate throughout the country.

Thirty HOUSES FOR WORKMEN were recently erected in Vina del Mar, a bathing resort near Valparaiso, by the Dolores Society. These will be rented to laborers at a minimum rental.

A plan is under consideration for the construction of an IRRIGATION dam at Lautaro, Province of Atacama, with a storage capacity of 35,000,000 cubic meters of water to be used in irrigating 4,000 hectares of land. The approximate cost of this work is 2,000,000 pesos. Another dam is to be built at Monte Amargo, with a capacity of 100,000,000 cubic meters of water, for the irrigation of 4,000 hectares of land. The cost of this work is estimated at 1,500,000 pesos. A third project is to change the course of the Astaburuaga River so that its waters can be used in irrigating 3,000 hectares of land. The approximate cost of this work is 2,000,000 pesos.

COLOMBIA.

Work has been started on the Bogota city market, which will cover an area of 6,336 square meters and be furnished with modern hygienic equipment of various kinds.

Two new vessels for the NAVIGATION OF THE CAUCA RIVER are being fitted out in Puerto Isaacs. They are the property of the Compañia Antioquena de Transportes Fluviales and are called *Ceilan* and *El Danubio*.

The Council of Ministers has approved the convention agreed upon by the minister of public works and Sr. Julius Berger Tiefbau to make the PLANS FOR THE CANALIZATION OF THE MAGDALENA RIVER. These plans will include the section from Barranquilla to Neive, including the branches of Loba and Monpos.

The Compañia de Aeronavegacion with its first aircraft has made the trial trip OF THE AERIAL MAIL AND PASSENGER SERVICE from the Atlantic coast up the Magdalena River successfully. The trial trip indicates that when the aviators are familiar with conditions trips between Girardot and Barranquilla can be made safely in less than 10 hours.

The principal projects discussed and approved in the recent COFFEE GROWERS' CONGRESS in Bogota were the following: The establishment of a planters' bank; plan for coffee valorization; land as security; the establishment of propaganda offices for Colombian coffee in foreign countries; and the founding of associations of growers in the departments of the Republic.

The President has issued a decree calling for the JUNCTION OF THE GIRARDOT RAILROAD WITH THE TOLIMA RAILROAD and the building of a section to unite them with the Railroad of the Pacific. The junction of the first two roads mentioned will be made by an iron bridge across the Magdalena at Girardot.

The Municipality of Ibague, capital of the Department of Tolima, has made a contract with the firm of Laserna y Compañia to establish an ELECTRIC TRAM SERVICE in the most populous part of the city, as well as branches to the neighboring municipalities of sufficient commercial importance. The company has obtained the contract for 60 years.

During the first six months of 1920 the MOVEMENT OF STEAMERS in the port of Barranquilla was as follows: Entered, 182 steamers with 48,239 metric tons of merchandise, valued at 33,382,979 pesos (peso equals \$0.9733); sailed, 176 steamers with 31,533 tons of merchandise, valued at 17,224,912 pesos.

A NEW SUGAR COMPANY has been organized under the name of "Ingenio Central de Penalisa" with a capital of 1,200,000 pesos. The central will have capacity for manufacturing 125,000 sacks of sugar, weighing 5 arrobas each (arroba equals 25 pounds).

COSTA RICA.

The organization committee appointed for the EXPOSITION OF SPANISH PRODUCTS which is to be opened in connection with the celebration of the centenary of the independence of Costa Rica, has begun its preparations. The exposition will be held under the auspices of the Governments of Costa Rica and Spain. Its honorary presidents will be the President of Costa Rica and His Majesty King Alfonso of Spain.

A presidential decree calls for the formation of AGRICULTURAL COMMITTEES in all the cantons of the Republic, the members to be appointed by their respective municipalities. These committees will consider within their jurisdiction matters referring to climate, soil, cultivation, ways of communication, labor conditions, salaries, stock breeding, etc.

CUBA.

The Compañía Azucarera Santa Cruz has recently been formed in Habana with a subscribed capital of \$6,000,000 to establish a new SUGAR CENTRAL to be known as "Isabel Maria." The company owns lands in the vicinity of the port of Santa Cruz del Sur in the Province of Camaguey. The new plant will have an annual producing capacity of 300,000 sacks of sugar of 325 pounds each. It will be situated 12 kilometers from Habana, with which it will be connected by a railway.

The railways commission has approved the project of a company organized to construct a SUBWAY IN THE PROVINCE OF HABANA, 180 kilometers long. This railway will run from Habana through the neighboring towns of Calvario, Managua, Nazareno, San Antonio de las Vegas, Batabano, Melena del Sur, Nueva Paz, Los Palos, Pipian Madruga, Casiguas, Tapaste, Santa Maria del Rosario, etc. The company is capitalized to \$25,000,000 and its president is Señor José Manuel Govín.

The Government of Cuba has authorized the Intercontinental Telephone & Telegraph Co. to construct a TERMINAL STATION FOR THE KEY WEST CABLE at Chorrera, Province of Habana.

To avoid strikes and in accordance with the convention agreed upon, before the administrator of the customs of Santiago de Cuba, by the shippers and consigners and the representatives of the freight handlers' union of the port, the President issued a decree establishing the HOURS OF WORK AND WAGES for workmen engaged about the bay of Santiago de Cuba. According to the decree the working hours are from 7 to 11 a. m. and from 1 to 5 p. m.; the wages will be \$4 to \$4.50 per day for port labor. Overtime work performed on holidays and extra hours will be paid double, except within the rest hours from 11 a. m. to 1 p. m. and 5 p. m. to 7 p. m., which will be

paid at the rate of \$0.87 to \$1 per hour, and from 12 a. m. to 1 a. m. from \$1.74 to \$2 per hour.

A **HARDWARE AND MACHINERY WAREHOUSE** is being built by the importers Muino y Compañía in Sagua la Grande, which is the central city of the two departments of Santa Clara and Camaguey. The building will cost \$250,000 and be one of the best in Cuba.

The Congress Transportation Co. of New York will establish a **NEW LINE OF FREIGHT STEAMERS** between the ports of the United States and Cuba. The company has also acquired land in Habana for the construction of docks and warehouses.

The **SUGAR MOVEMENT** for the last crop up to September 6, 1920, was as follows: In Cuban ports from the centrals, 3,537,971 tons; estimate of quantity still in storage at the centrals, 162,029 tons. The exportation of sugar on the date mentioned had reached 3,163,698 tons and the quantity in the ports still to be shipped was 332,889 tons. The total production of sugar was calculated at 3,700,000 tons.

DOMINICAN REPUBLIC.

The **HIGHWAY** between Santo Domingo and San Pedro de Macoris is now being finished. The most difficult part is the construction of the bridge over the river Brujuelas, beyond the town of San Isidro, which is as far as the road had been built. Once the bridge is constructed the remainder of the highway will be quickly completed, as the materials for road building abound in the neighborhood.

From the customs reports the total value of the **FOREIGN TRADE** of the Dominican Republic for 1919 amounted to \$61,621,019, or an increase of \$19,512,523 over the foreign trade of 1918. The 1919 imports amounted to \$22,019,127, as against \$19,736,152 in 1918, and the 1919 exports to \$39,601,892, as against \$22,372,344 in 1918, showing a balance in favor of the country of \$17,582,765. Articles showing increased importation in 1919 were: Wheat flour, increased by 7,656 tons; soaps, by 875 tons; crackers, by 298 tons; butter, by 170 tons; dried and salt fish, by 146 tons. Among the articles of increased export sugar went up 42,288 tons; tobacco, 5,102 tons; cacao, 3,578 tons; and hides and skins, 827 tons.

ECUADOR.

A **COMMERCIAL WIRELESS SERVICE** has been established between the Canal Zone, Panama, Colombia, Venezuela, and Ecuador. Messages for transmission are received in the wireless station at Balboa, the telegraph offices of the Panama Railway Co., and in the telegraph offices of the Panama Government. Messages for Colombia, Venezuela, and Ecuador are sent from the wireless station at Balboa

to that of Pueblo Obaldia, and from thence to Cartagena, Colombia, from which place they are forwarded to their destinations over the telegraph systems of the respective countries. The charge per word from Balboa to Cartagena is 22 cents gold if transmitted in the Spanish language, and 24 cents per word if in English or coded.

Important PETROLEUM deposits exist on the northern and southern shores of the Bay of Guayaquil. The best known oil deposits of Ecuador are at Santa Elena, some 160 kilometers from Guayaquil. The entire petroleum belt of the Republic has an estimated area of 154,000 hectares.

HAITI.

A GENERAL DIRECTORATE OF PUBLIC WORKS has been created by law. It will be under a chief engineer. The duties of this body will be to keep the secretary of public works informed as to the progress on work undertaken, to make recommendations, and to keep informed on the state of present or building public works, and those which it deems necessary to be constructed. The engineers and architects of the Department of Public Works will be under the direct control of the general directorate.

HONDURAS.

The Agricultural Co. of Honduras has filed with the Government plans for the reconstruction of the NATIONAL RAILWAY, and as soon as these are approved proposes to begin construction work.

Work has been commenced on a RAILWAY planned to connect Nicaragua with Honduras. It is proposed to build this line from Chinandega to Playa Grande on the Gulf of Fonseca, a distance of 50 kilometers. From thence a branch, 30 kilometers long, will be built to the Honduras frontier in the Department of Choluteca. Construction work is to be completed by September 15, 1922. This line will form a part of the system known as the "International Railways of Central America," and later will connect with the section which the Honduran Government intends to build in the Departments of Valle and Choluteca along the frontiers of Salvador and Nicaragua.

MEXICO.

The States of Morelos and Chiapas have established AGRICULTURAL COLONIES for military settlers who have voluntarily left the army.

The Department of Industry has granted a concession to the Marland Oil Co. to PROSPECT in Lower California. The company proposes to send experts to thoroughly examine that region, and if oil is found will invest several millions dollars in its extraction.

The Government has submitted a bill to congress providing for the exemption of EXPORT AND IMPORT DUTIES on merchandise

leaving or entering the territory of Lower California, with the exception of cotton, copper, wines, liquors, and pearls.

In the November issue of the Monthly Bulletin of the Pan American Union the statement is made that the EXPORT TAX ON PETROLEUM has been reduced to \$1 per barrel. A communication from Mr. V. C. Garfias, special commissioner of the petroleum department of the Mexican Government, shows this to be an error. According to his statement the stamp tax on exports of petroleum per barrel since 1917 has been as follows: Heavy crude, 12° B., \$0.05; light crude, 20° B., \$0.11; fuel oil, 16° B., \$0.09; and crude gasoline 56° B., \$0.568. The present taxes for the same oils are: Heavy crude, 12° B., \$0.086; light crude, 20° B., \$0.182; fuel oil, 16° B., \$0.13; and crude gasoline, 56° B., \$0.679.

The Government of the United States has ordered the renewal of DIRECT FREIGHT SERVICE with Mexico.

The Department of Communications has LEASED to the Aguila Mexican Petroleum Co. for eight years 26,500 square meters of land in the Federal zone on the left bank of the Coatzacoalcos River, State of Veracruz, with authority to build a wharf near the city of Minatitlan.

The President has established the FREE PORTS of Salina Cruz, Port Mexico, and Guaymas. Vessels entering and clearing from free ports are only required to observe the sanitary laws and regulations concerning pilots. An appropriation of 500,000 pesos has been made with which to begin the purchase of land, erection of buildings, and other expenses required for converting the places mentioned into free ports.

NICARAGUA.

The Government has appropriated \$300,000 for a FARMERS' LOAN FUND to encourage national agriculture. This sum was to be used for building the railroad to the Atlantic, but until railroad negotiations are completed the money will be used as stated.

According to a report of the Nicaraguan consul general in San Francisco the total value of AMERICAN AND ASIATIC MANUFACTURES EXPORTED to Nicaragua through San Francisco, from January to May, 1920, amounted to \$653,047. During the year 1919 the exportation amounted to \$1,578,102, of which \$1,491,513 represented the American and \$81,589 the Asiatic goods.

PANAMA.

The President has issued an important decree governing LAND MEASUREMENTS in the Republic. According to the law, to be an official land surveyor the appointment must be authorized by the President after the presentation of a certificate issued by a technical

commission. From the date of the decree all land surveyors not fulfilling these conditions are disqualified to continue practicing that profession.

PARAGUAY.

The SUGAR PRODUCTION of Paraguay is estimated at 5,230,000 kilos for 1920. In the previous years this production was as follows: 1915, 1,536,377 kilos; 1916, 788,570 kilos; 1917, 732,914 kilos; 1918, 561,820 kilos; 1919, 2,504,985 kilos, which figures when compared with those of 1920 show how greatly this industry has developed owing to the use of modern machinery.

The naturalist, Senor Durant Savoyat, has made a survey of the country and has published in his report the following information on PARAGUAYAN TERRITORY not yet developed: "The geological areas of Paraguay contain substances which as yet have never been exploited. Arable lands of the country are in most cases siliceous, in some cases needing to be supplemented with calcic principles, which exist in abundance in certain vicinities. Concepcion is one of the departments favored with great calcic formations, which also exist to a lesser extent in other departments. Limestone and chalk are found in many places, but the most notable fertilizing element that exists is basalt, deposits of which extend from Asuncion to the center and west of the Republic. Pulverized basalt used as a fertilizer would assure the agricultural future of Paraguay."

After a long series of careful experiments the chemist, Senor Juan C. Krase, has obtained formulas for making, from flowers native to Paraguay, ESSENTIAL OIL PERFUMES, which heretofore were almost unknown in this form. These essences already have a foreign market, for the Pharmaceutical Society of Prague has bought a considerable quantity of them, and has urged Senor Krase to manufacture them on a larger scale.

PERU.

The FOREIGN TRADE of Peru for 1919, as compiled by the department of finance, amounted to \$189,296,025, of which \$58,389,986 were imports and \$130,906,039 exports. The trade for the first six months of 1920 was \$135,299,912, consisting of imports, \$35,060,271, and exports, \$100,239,641. The trade of 1918 was: Imports, \$47,166,-\$49; exports, \$97,066,812; total, \$144,233,661. The figures for 1919 and the half of 1920 show a remarkable increase in Peruvian trade. Those for the six months of 1920 show exports greater than for the whole of 1918. The chief exports of 1919 were: Sugar, \$40,444,363; cotton, \$32,295,539; mineral products (except petroleum), \$27,661,411; petroleum, \$11,291,831; and wool, \$7,940,393. The principal countries of export were: United States, \$60,827,525; United Kingdom, \$41,079,789; and Chile, \$15,726,754.

Jose A. Vivanco has been commissioned by the Peruvian Government to go to the United States for the purpose of negotiating an interchange of SEEDS AND CEREALS between the two countries.

An executive decree provides that Peruvian EXPORTS TO BOLIVIA shall be made exclusively over the Mollendo Railway.

A law of the Southern Regional Congress prohibits slaughtering cows under 10 years old in the Province of Abancay, or exporting same, with the exception of such animals as may be physically unable to reproduce.

In 1900 the EXPORTS OF COTTON from Peru was 7,246 tons. In 1913 these exports had increased to 23,918 tons; in 1914, 22,890 tons; in 1915, 21,124 tons; in 1916, 23,472 tons; in 1917, 17,375 tons, and in 1918, to 21,272 tons.

SALVADOR.

In 1907 the TELEGRAPH system of Salvador comprised 178 offices and 3,041 kilometers of line, as compared with 236 offices and 3,841 kilometers of line in 1920. The telephone system in 1907 consisted of 105 offices and 1,392 kilometers of line. At the present time there are 231 telephone offices and 2,152 kilometers of line.

URUGUAY.

The Government has appointed Felipe Montero, ex-president of the Rural Association of Uruguay, to submit to the department of industry a report on the LIVE-STOCK situation in Europe and North America.

Reports on the AGRICULTURAL CONDITION of Uruguay in 1919-20 show a total of 568,339 hectares of cereal-producing lands, as compared with 636,512 hectares in 1918-19, and 732,973 hectares in 1917-18. In 1919-20 the plantings in hectares were as follows: Wheat, 275,363; maize, 223,501; flax, 33,458; oats, 32,458; barley, 1,844; alpeste, 1,694; and rye, 21.

The Government has issued orders prohibiting imports and exports of OPIUM AND COCA, and preparations thereof, by post or through the customhouses of the Republic, as well as the possession, sale, or disposal of these drugs without a special permit from the National Board of Hygiene. Pharmacists, doctors, dentists, laboratories, and sanatoriums may be authorized to possess and use for professional purposes such quantities of these substances as the National Board of Hygiene may deem sufficient.

During the first half of 1920 the FOREIGN COMMERCE of Uruguay amounted to 136,678,051 pesos, made up of exports, 70,591,905 pesos, and imports, 66,086,146 pesos, which shows an excess of exports over imports of 4,505,759 pesos.

The URUGUAYAN NAVIGATION CO. has recently been organized to engage in freight and passenger traffic on the Plate, Uruguay, and Paraguay Rivers. The company has a capital of 10,000,000 pesos.

VENEZUELA.

The Caracas Chamber of Commerce recently addressed inquiries to the various governors of the States of the Republic as to the HEAD OF LIVE STOCK and obtained the following information: State of Apure, 627,150 head of cattle; State of Bolivar, 149,155 head of cattle; State of Cojedes, 117,290 head of cattle; State of Iara, 80,581 head of cattle; and State of Monagas, 135,129 head of cattle.

In 1919 the COAL PRODUCED from the mines of the State of Anzoátegui amounted to 25,559,490 kilos. In 1918 these mines produced 23,316,489 kilos.

Article 6 of the Arbitral Convention signed by the Chamber of Commerce of the United States and the Chamber of Commerce of Caracas and associates is as follows: Each of these chambers of commerce promises to appoint immediately an ARBITRATION COMMITTEE, composed of nine members, to serve for a definite period. Four of the Caracas committee of arbitration will be appointed by the United States Chamber of Commerce subject to the approval of the Caracas Chamber of Commerce. Conversely the five remaining members of the same arbitration committee of the Caracas Chamber of Commerce will be chosen by the Caracas Chamber of Commerce, with the approval of the United States Chamber of Commerce. A member of the United States Chamber of Commerce will be president of the committee of arbitration, thus appointed for the Caracas Chamber of Commerce. The committee of arbitration for the United States Chamber of Commerce will be appointed in a reciprocal manner. As a result of the foregoing provision the following members were elected for the arbitration committee of the Caracas Chamber of Commerce: Señor David T. Pardo, Chamber of Commerce of Caracas; Señor J. M. Herrera, Caracas and Ciudad Bolivar; Señor Guillermo París, Maracaibo; Alberto Franceschi, Carúpano, and Señor M. D. Berrizbeitia, Puerto Cabello. Committee of arbitration of the United States Chamber of Commerce: William A. Sherwell, William P. Wilson, E. A. Brand, and Señor Julio Sorzano.

In 1919 the GOLD EXPORTED through the customs of Ciudad Bolivar amounted to 834,752 grams, worth 2,471,366 bolivars (bolivar par equals \$0.1930). The principal mines from which gold was taken were the gold fields of Venezuela (Ltd.), Cara al Sol Mines, Alto Cuyuni, Riqueza, Nueva Panamá, and La Paz.

Statistics on the PETROLEUM INDUSTRY of Venezuela show that petroleum deposits have been discovered in 11 districts of five

different States in Venezuela. The Zulia field on the shores of Lake Maracaibo is the richest oil zone in the country. At present three companies are exploiting this country: The Caribbean Petroleum Co., the Colon Development Co., and the Venezuela Oil Concession (Ltd.). Only the first named of these companies had produced sufficient oil for export. A refinery has been built in San Lorenzo to handle the oil from these fields.



INTERNATIONAL TREATIES

SALVADOR—UNITED STATES.

The National Legislative Assembly of the Republic of Salvador approved on June 7, 1920, the **COMMERCIAL TRAVELERS' CONVENTION**, concluded between the Governments of Salvador and the United States in Washington on January 28, 1919. This convention encourages mercantile transactions between the two countries and removes various restrictions heretofore placed on commercial travelers.

URUGUAY—PARAGUAY.

The Congress of Uruguay approved on June 11, 1920, the **TREATY WITH PARAGUAY**, concluded in Asuncion on February 28, 1915, relating to procedure in the dispatch of letters requisitorial, letters of annulment (*cartas derogatorias*), and similar documents coming from either of the contracting countries. This agreement specifies the procedure to be followed in connection with the treaty relating to prosecutions referred to by the South American International Congress of Private Law in Montevideo on January 11, 1889.

URUGUAY—PERU.

The Congress of Uruguay approved on June 11, 1920, the **CONVENTION WITH PERU**, concluded in Lima on July 18, 1918, concerning equivalents of studies and diplomas. This convention encourages the exchange of students for their continuance and completion of studies begun in educational institutions of the respective countries.





LEGISLATION

CHILE.

On August 26, 1920, the President of the Republic promulgated the law enacted by congress on COMPULSORY PRIMARY INSTRUCTION. This law, which becomes operative six months after its publication on the above-stated date in the official gazette, prescribes that instruction given by the State and the municipalities shall be free and compulsory on children of both sexes. Parents or guardians are required to send their children or wards to a Government, municipal, or private school for not less than four months of each year before attaining 13 years of age. In the country, or in places where circumstances do not permit the maintenance of permanent schools, and where temporary schools are provided, minors must attend same during a period of not less than four months of each year. Minors who have reached the age of 13 without passing the first two grades of primary instruction must continue at school until after approval in the regular annual examinations, or up to the age of 15 years. Should such pupils obtain permanent employment, they remain subject to this obligation up to the age of 16, and must fulfill the requirements in an auxiliary or supplementary school. These obligations shall be considered complied with if minors are given home instruction equivalent to the first two grades of primary work in accordance with the respective curricula approved by the President of the Republic. Instruction in this form shall be verified by annual examination before a committee appointed by the communal board of education. The bureau of primary education may verify through their inspectors whether minors who attend private schools duly comply with the provisions of the law. The excuses exempting from the prescribed obligations are as follows: Should there be no school within a distance of not less than 2 kilometers (4 kilometers if means of transportation are furnished), or should there be no room in the school, or should there be physical or mental impediments which prevent attendance. Poverty is no excuse for not attending school. Minors under 16 years of age who have not complied with the law of compulsory education, shall not be employed in factories or shops.

For the purpose of fulfilling and insuring compliance with the provisions of this law, without interfering with the duties of school directors, a board of education, consisting of five members, two of whom shall be selected by the board of primary education and three by the municipality of the commune, shall be established in each

commune. The members of this board shall hold office three years and may be reelected. For lack of approval because of failure to comply with school requirements, the principals of public, municipal, and private schools shall forward to the board of education, on special blanks prepared for that purpose, a month before the opening of the schools, a list of the pupils enrolled therein, together with a list of pupils who have been absent for 15 days without excuse. Failure to comply with these provisions, in so far as the parents or guardians are concerned with respect to matriculation and attendance, shall subject them to the following penalties: (a) Oral warning; (b) a fine of from 2 to 20 pesos, or imprisonment of from 1 to 10 days, if compliance with the provisions of the law has not been made before the expiration of 15 days after warning has been given; and (c) in case of a new violation, double the penalties referred to, provided 15 days' warning shall have previously been given. Culpable persons shall be subject to the same penalties in case of a minor who is being educated at home should he be found by the examining committee not to possess the knowledge which the law requires. Instruction given in primary schools has for its object the physical, moral, and intellectual development of pupils. The plan of instruction followed in the different schools, according to grades and in conformity with the curricula required by the respective rules and regulations, shall cover the following subjects: Reading and writing; mother tongue; morals; hygiene; gymnastics; military drill; singing; plain, geometric, and ornamental drawing; modeling; manual training for boys and needlework for girls; elementary arithmetic and metric system; national geography and history; world history; general, commercial, and industrial geography; natural and physical sciences; civics, elementary law, and political economy.

ECUADOR.

Congress has amended the penal code for the purpose of protecting STATE SECRETS against misfeasance. Persons charged by the Government of Ecuador to treat with foreign governments and who violate the trust reposed in them, or those who reveal the secrets of a negotiation, or who unlawfully obtain, make known, or publish documents or information which should be kept secret, are subject to the penalties prescribed by law.

MEXICO.

An executive decree of October 2, 1920, amends articles 5, 15, and 21 of the law of November 21, 1917, concerning the ORGANIZATION OF FEDERAL COURTS, in the sense that the supreme court shall have a secretary, an editor of the judicial weekly of the federation, and compiler of laws in force, as well as four chief clerks. The law prescribes the qualifications of judges and officers of the courts.

URUGUAY.

On August 5, 1920, congress enacted a law amending the articles of the penal code concerning DUELS and vesting in the tribunal of honor the power of decision without appeal. Seconds who are unable amicably to compose their differences shall submit same to the tribunal of honor, which shall decide if the offense is of such a nature as to justify settlement by duel. The law provides that dueling shall be punished in the following cases with the same penalties as those prescribed for homicide and assault: When the duel takes place without the intervention or presence of seconds; when the arms used are unequal, or in violation of the conditions agreed upon by the seconds; and when the conditions agreed upon, or the kind of duel, or the distance of the combatants, or other circumstances, greatly increase the probabilities that death will result to one or both of the combatants. In the last two instances the seconds shall be considered as accomplices.



ECONOMIC AND FINANCIAL AFFAIRS

ARGENTINA.

On June 30 last the GOLD ON HAND and money in circulation in the Republic were as follows: Gold on hand, 584,612,456 pesos; bank notes in circulation, 1,362,559,524 pesos; guaranty on gold deposited in the conversion bank and in the legations, 78.5 per cent; and average amount of gold per inhabitant, 68.51 pesos.

The governor of Entre Rios has submitted to the legislature of that Province a bill providing for the establishment of REGIONAL AGRICULTURAL BANKS. Under this plan three banks are to be founded with an initial capital of 100,000 pesos each, and with authority at some future time to merge with the Bank of Crespo into the Provincial Agricultural Bank.

The following BANKS have recently been established in the Argentine Republic: Argentine Guaranty Bank; the Bank of Chile and Argentina, with an initial capital of 10,000,000 Chilean gold pesos which may soon be increased to 20,000,000 pesos; the Agricultural Bank of Buenos Aires; and the Scandinavian Argentine Bank.

During the first half of 1920 AGRICULTURAL LOAN CONTRACTS were registered to the number of 3,353, representing a value of 63,946,877 pesos. Since the keeping of these records was

begun in December, 1914, the total registration of loan contracts numbered 81,483, covering a total of 803,236,604 pesos.

During the first eight months of 1920 the operations of the board of trade in mortgage bonds amounted to 210,837,343 pesos, currency, and in public bonds, 84,040,550 pesos, currency, and 89,040,550 pesos, gold.

On September 15, 1920, the CONVERSION BANK had on hand in cash 453,240,322 gold pesos, and on hand in the legations, 17,359,594 gold pesos, or total cash assets of 470,599,916 pesos.

On August 31, 1920, the GENERAL STATEMENT of the Argentine Banks showed deposits amounting to 3,556,180,000 pesos; loans, 2,401,740,000 pesos; and cash on hand, 1,179,310,000 pesos.

BRAZIL.

The President of Brazil has opened the following credits: 1,000 contos (about \$250,000) for the purchase of rails, fishplates, and other material needed for the construction of a railway to connect the towns of São Luiz and Caxias in the State of Maranhão, and 1,500 contos (about \$375,000) for the installation of a plant for the treatment of national coal for use on the Central Railway of Brazil. This plant will be erected at Cachoeira, State of São Paulo.

In accordance with decree No. 1811 of July 19, 1920, the minister of finance has issued a circular to banking institutions providing for the SUPERVISION OF BANKS in Brazil by the department of finance.

The State of São Paulo recently remitted to Europe £3,050,824 to cover the service of the foreign DEBT, due January 1, 1921.

The Federal Economic Bank, which was founded in São Paulo in 1875 with a capital of 32 contos, now has a capital of 69,665 contos. This bank recently celebrated its forty-fifth anniversary.

O Paiz of Rio de Janeiro states that the MERCANTILE BANK FOR BRAZIL, an American banking institution with headquarters in New York, has sent representatives to Brazil to report upon the advisability of establishing branch banks in that Republic.

The Government of Brazil has opened a credit of 8,300 contos for the purchase of certain material and rolling stock for the MINAS WESTERN RAILWAY.

CHILE.

The BALANCES of all the banks of Chile, with the exception of the Bank of Chile and Argentina, on May 31 last, showed total deposits amounting to 828,264,685 pesos, currency, and 218,497,609 pesos, gold; loans and securities, 1,063,586,485 pesos, currency, and 134,164,424 pesos, gold; and cash, 127,853,242 pesos, currency, and 6,817,595 pesos, gold.

The Government has authorized the municipality of Vina del Mar, a fashionable bathing resort near Valparaiso, to negotiate a LOAN of 3,500,000 pesos, the proceeds of which are to be used in paving and beautifying the streets of that city.

On May 31, 1920, the National SAVINGS BANK had 641,629 depositors and 141,174,373 pesos in deposits; mortgage bonds on hand having a nominal value of 107,170,800 pesos and a cash value of 105,967,972 pesos; bonds of depositors with a nominal value of 8,356,000 pesos and a cash value of 8,163,313; and State, municipal irrigation, school building, and San Cristobal Hill bonds with a nominal value of 4,152,900 pesos and a cash value of 3,885,420 pesos. The Savings Bank of Santiago had on the same date 293,701 depositors, with deposits representing 51,899,009 pesos; mortgage bonds, having a nominal value of 35,994,200 pesos, and a cash value of 35,930,956 pesos; depositors' bonds having a par value of 9,460,600 pesos; and State, municipal irrigation, school building, and San Cristobal Hill bonds with a nominal value of 2,685,000 pesos, and a cash value of 2,507,590 pesos.

COLOMBIA.

Among the different projects approved in the congress of coffee growers recently held in Bogota was one to authorize the EMISSION OF CERTIFICATES guaranteed with the coffee stock on hand. The project was laid before the council of ministers and with their approval will be submitted for consideration to the legislative power.

The President has approved the conditions for a LOAN to be obtained by the Department of Antioquia from the Commercial Co. of New York. The loan, which is to be used for road building and repairing in the department, is for 1,000,000 pesos (peso equals \$0.9733).

From January to July, 1920, the total value of the receipts of the ANTIOQUIA RAILROAD amounted to the sum of 834,500 pesos.

THE COMMERCIAL BANK OF SPANISH AMERICA (Ltd.) has been authorized by the Colombian Government to establish branches in the Republic.

From a statement of BANK PROFITS the following figures are taken: The Banco de Colombia during the first six months of 1920 made a net profit of 174,702 pesos, of which 48,000 pesos were used as dividend; 100,000 pesos went to the reserve fund and the remainder to various funds. The Banco Central in the same period made a net profit of 151,559 pesos, of which 100,156 pesos were used as dividend, 15,155 pesos for the reserve fund, and the remainder to other funds. The Banco Lopez made 183,780 pesos profit in the same six-month period, using as dividends 80,000 pesos and distributing the remainder, after depositing 18,378 pesos in the reserve fund, in various other funds.

COSTA RICA.

From January to May, inclusive, 1920, the total CUSTOMS COLLECTIONS amounted to 2,702,181 colones (colón equals \$0.4653), which, compared with the 783,013 colones collected in like period of 1919, show an increase of 1,919,168 colones.

In accordance with law No. 13 of July 13, 1920, authorizing a loan of \$600,000, the President has ordered the EMISSION OF BONDS TO BEARER against the national treasury. The bonds are of from \$100 to \$1,000, and draw an annual interest of 10 per cent, payable quarterly.

CUBA.

From the presidential message delivered to Congress in April, 1920, the following statistics in regard to the PUBLIC DEBT were taken: The entire public debt was in the amortization period. On this account the present fiscal year (1920-21) will have an additional tax of \$5,000,000, including the \$3,000,000 which are required for the immediate amortization of the interior floating debt contracted in accordance with the law of July 31, 1917. The nation did not owe a cent for capital or exigible interest. The state of the different sections of the debt was as follows: Bonds of the revolution of 1896 and 1897, recognized value, \$2,196,585; paid, \$2,188,625, and still to be paid, \$7,960. The loan of \$35,000,000 contracted with Speyer & Co. had been reduced by amortizations, purchases, and remittances to \$24,599,500. The amortized bonds of the interior debt amounted to \$6,985; bonds of this debt still in circulation, \$104,709. To pay the interest up to March, 1920, and to form the amortization fund for the loan of \$16,500,000, contracted with Speyer & Co., \$425,000 had been paid, all the other expenditures on this debt being covered up to January 31, 1920. On the \$10,000,000 loan from J. P. Morgan & Co., \$166,666 had been paid to cover coupon 12, due February 1, 1920, and \$83,333 toward coupon 13, due on August 1, 1920, all obligations being covered up to February 2, 1920. To form an amortization fund for this loan \$147,500 had been paid in for the period from November, 1919, to March, 1920, inclusive. Of the \$5,000,000 of treasury bonds of 1914 there were only 8 of series A and 1 of series B, amounting to \$1,300, not presented for redemption. A sum equal to their value is on deposit in the bank for their payment. The treasury bonds of 1917, series A, were issued to the amount of \$15,000,000, of which \$10,000,000 were ceded to the Treasury of the United States at 5 per cent, which interest was paid up to November 15, 1919; series B were issued to the amount of \$15,000,000. As to the expansion of the interior debt by \$7,000,000, 13,688 \$500 bonds, or a total of \$6,844,000, have been issued, of which 2,000 bonds worth \$1,000,000 have been amortized.

In the five fiscal years from 1915-16 to 1919-20, inclusive, the government collected in $2\frac{1}{2}$ per cent and $4\frac{1}{2}$ per cent taxes on the premiums collected by MARITIME INSURANCE COMPANIES the sum of \$119,128, distributed as follows: 1915-16, 10 companies paid \$9,622; 1916-17, 9 companies paid \$18,267; 1917-18, 11 companies paid \$29,777; 1918-19, 14 companies paid \$29,175; and in 1919-20 (during the first three-quarters of the year), 15 companies paid \$32,287.

The President has appointed Licdo. Gabriel García Echarte, sub-secretary of the treasury, to represent the Government of Cuba in New York to inspect the books and accounts relating to the LOANS FROM SPEYER & CO. TO CUBA for \$35,000,000 and \$16,500,000. This action has been taken by the Government of Cuba in accordance with the terms of the contract which permit the inspection of the books accounting for these loans.

According to figures submitted by the directorate of commerce and industry in the fiscal year ending June 30, 1920, 314 NEW STOCK COMPANIES have been entered in the mercantile registers of the Republic, with a total capital of \$229,500. During that same period the formation of 14 various kinds of insurance companies has been authorized.

DOMINICAN REPUBLIC.

On July 31, 1920, the PUBLIC DEBT of the Dominican Republic was as follows: 1908 issue of bonds due in 1958, \$20,000,000; redeemed bonds held in the amortization fund, \$9,174,750; cash in the amortization fund on July 31, 1920, \$618,221; amortized total, \$9,792,971, leaving an unsettled balance of \$10,207,029. Issue of bonds of 1918 due in 1938, \$4,161,300; redeemed bonds, \$1,113,200; cash in the amortization fund, \$154,342; total amortized, \$1,267,542, leaving an unsettled balance of \$2,893,757, which, added to the above-mentioned sums, leaves a total balance of \$13,100,786, unpaid.

THE COMPAÑÍA AZUCARERA DOMINICANA has been formed, with a capital of \$3,700,000, in Santo Domingo for the purpose of buying and renting lands, sowing and cultivating sugar cane and other products, the operations and purchase of sugar centrals, the development of oil deposits, etc.

ECUADOR.

During the five years from 1915 to 1919, inclusive, the yearly IMPORT DUTIES, in sucres, were as follows: 1915, 4,147,176; 1916, 5,138,142; 1917, 5,414,625; 1918, 3,287,270; and in 1919, 3,217,398.

The RECEIPTS of the municipal treasury of Guayaquil for the first nine months of the present year, including a balance on hand of 29,169 sucres from the year 1919, were 1,393,392 sucres. The expenditures during the period referred to were 1,291,943 sucres.

During the first half of 1920 the NATIONAL REVENUES amounted to 13,674,813 sucres, which, added to the balance on hand at the beginning of the year, makes the total receipts available at the end of the period mentioned 13,770,212 sucres. The expenditures during the first six months of the present year amounted to 13,450,072 sucres.

The Bank of Azuay has loaned the Ecuadorian Government 1,000,000 sucres to be used in the construction of the Sibambe to Cuenca Railway.

GUATEMALA.

An executive order has just been issued setting aside 134,259 pesos as a fund for the aid of the HOSPITALS of the Republic. This fund comes from the estate of Mrs. Fernanda Moya, deceased, out of a payment of 137,259 pesos due the Government.

HAITI.

In the four months from July to September, inclusive, 1920, the MUNICIPAL EXPENDITURES OF PORT AU PRINCE were 142,071 gourdes (gourde gold equals \$0.25). The municipal receipts were equal to the expenditures for the same period.

HONDURAS.

On June 30, 1920, the general statement of the ATLANTIDA BANK showed assets \$2,670,602. The bank had on hand at that time 35,919 silver dollars, and \$526,292 in American gold. It also had on deposit for account of the Government of Honduras \$611,999. The building and furniture of the bank are valued at \$30,500. The paid-up capital is \$500,000; the reserve and special reserve funds, \$190,000; the undivided profits, \$121,689; bank bills in circulation, \$89,506; accounts current, \$1,198,867; deposits subject to sight drafts, \$17,250; and time deposits, \$160,811.

MEXICO.

The Huasteca Petroleum Co. has paid the Mexican Government EXPORT DUTIES ON PETROLEUM amounting to 700,000 pesos for exports of this product during July and August, 1920. The total petroleum export duties collected by the Government during the months referred to aggregated 9,000,000 gold pesos.

The budget of the treasury department for the service of the INTERIOR DEBT for 1921 amounts to 15,000,000 pesos.

In July, 1920, the COINAGE of Mexican money in the Republic consisted of 1,800,000 gold pesos, 3,730,000 silver pesos, and 50,000 pesos in copper coins, or a total of 5,580,000 pesos.

The REVENUES of the federal government in August, 1920, were 763,917 pesos, which, added to the balance on hand at the close of July, made a total available fund of 943,667 pesos. The expenditures in August were 894,852 pesos, leaving a balance on hand on September 1 of 48,815 pesos.

NICARAGUA.

From the memorandum of the collector general of customs of Nicaragua the following data on the DEBT OF THE REPUBLIC were taken: When the financial system of October 20, 1917, was adopted the total debt of the Republic amounted to \$21,390,521, which by January, 1919, had been reduced by amortizations and negotiations to \$10,238,589. For the month of January, 1920, the public debt amounted only to \$9,884,023, as follows: \$5,445,905 sealed bonds of 1909; bonds of 1909 not sealed, \$4,769; certificates of consolidation, 1909 bonds, \$272,115; bonds of 1909, amortization fund, \$275,901; deferred treasury bonds of 1917, \$123,986; guaranteed customs bonds, \$3,649,250; bonds of 1904 not paid, \$30,000; and the emergency issue (that not yet redeemed), \$87,645.

A law passed by congress has abolished the RUBBER EXPORT TAX of 12 centavos per kilo imposed by the law of December 8, 1898.

PANAMA.

From January 1 to August 31, 1920, the mortgages and personal documents in the BANCO NACIONAL DE PANAMA amounted to \$207,288 in mortgages and \$56,296 in interest thereon; personal documents, \$280,546; and their interest, \$20,601.

PARAGUAY.

The NET PROFITS OF THE BANCO DE LA REPUBLICA for the first six months of 1920 were 402,796 pesos, gold (pesos equals \$0.9648), distributed as follows: Reserve fund, 40,279 pesos; administration, 36,252 pesos; dividend, 320,000 pesos, leaving a balance of 6,265 pesos, which was invested. On June 30, 1920, the total assets of the bank were 31,195,378 pesos, gold, 31,608 pesos, currency, and 73,594,134 pesos, legal tender, the principal items being 14,000,000 pesos of stock to be sold; shareholders (Paraguayan Government), 2,000,000 pesos; cash in banks or abroad, 1,449,260 pesos, gold, 23,188 pesos, national currency, and 14,716,726 pesos, legal tender; current accounts owed, 2,857,797 pesos, gold, and 17,870,920 pesos, legal tender; discounts, 1,284,200 pesos, gold, and 10,393,799 pesos, legal tender; notes held, 4,489,135 pesos, gold, and 2,745,035 pesos, legal tender; and in security, 2,294,715 pesos, gold,

and 5,892,887 pesos, legal tender. Liabilities, capital, 20,000,000 pesos, gold; reserve, 402,005 pesos, gold; emergency fund, 1,006,329 pesos, gold; savings, 218,118 pesos, gold, 5,398 pesos, currency, and 5,193,579 pesos, legal tender; current accounts credited, 443,986 pesos, gold, and 33,938,356 pesos, legal tender; time deposits, 534,535 pesos, gold, and 7,362,898 pesos, legal tender; judicial deposits and deposits in custody, 91,482 pesos, gold, and 6,761,728 pesos, legal tender; and rediscounts, 145,764 pesos, gold, and 103,387 pesos, legal tender.

The law of September 8, 1920, has authorized the Exchange Bureau to ISSUE BILLS to the value of 30,000,000 pesos, legal tender, exclusively for loans to be made to banks established in Asuncion, taking as security the notes held by these institutions. The loans will be conceded by the director of the Exchange Bureau and shall be for a term of six months, with 12 per cent annual interest. Loans must not exceed half of the value of the securities given the Exchange Bureau. The Government will have an interest in all the properties of the debtor bank on account of loans conceded.

In the draft of the GENERAL BUDGET LAW for 1920-21 the expenditures are fixed at 1,223,593 pesos, gold, and 110,953,661 pesos, paper, distributed as follows: Legislative congress, 900 pesos, gold, and 2,740,400 pesos, paper; ministry of the interior, 170,600 pesos, gold, and 26,339,600 pesos, paper; ministry of foreign relations, 176,976 pesos, gold, and 1,069,200 pesos, paper; treasury, 7,900 pesos, gold, and 17,305,120 pesos, paper; justice, religion, and public instruction, 69,120 pesos, gold, and 22,759,560 pesos, paper; war and navy, 171,857 pesos, gold, and 19,379,784 pesos, paper; and the public debt, 626,240 pesos, gold, and 21,360,000 pesos, paper. The financial resources of the state are calculated at 689,000 pesos, gold, and 123,360,000 pesos, paper.

PERU.

The Government has authorized the supervisory board to issue circular checks to the amount of 1,000,000 Peruvian pounds in denominations of 5, 1, and $\frac{1}{2}$ pounds.

The CONSUMERS COOPERATIVE MUNICIPAL SOCIETY (Ltd.), of Lima, has been organized, with an initial capital of 10,000 Peruvian pounds. Stores are to be established for the purpose of supplying provisions to municipal employees at the lowest possible cost.

In 1919 the average monthly transactions of the CLEARING HOUSE in Lima were 10,448,567 Peruvian pounds, as compared with 4,513,230 Peruvian pounds in 1918 and 3,970,132 Peruvian pounds in 1917.

SALVADOR.

The BUDGET for 1920-21 gives estimated revenues of 14,726,170 colones and estimated expenditures 16,227,580 colones, leaving an estimated deficit of 1,501,410 colones. The estimated receipts are made up of the following items: Customs revenues, 8,402,450, and internal taxes, 6,323,720. The estimated expenditures, in colones, are as follows: National assembly, 115,835; presidency, 101,740; department of interior, 4,096,495; department of fomento (promotion), 1,601,890; agriculture, 73,800; foreign relations, 329,804; justice, 936,163; public instruction, 1,831,374; charity, 695,332; treasury, 857,413; public credit, 2,000,040; war and marine, 3,387,694; and other expenses, 200,000.

In May, 1920, the INCOME TAX collected amounted to 16,542 colones. This tax, from January to May, inclusive, of the present year aggregated 160,005 colones.

URUGUAY.

On July 1, 1920, the POSTAL SAVINGS BANK commenced operations in Montevideo. Deposits are accepted in postage stamps of from 1 to 5 centavos. The first deposit may not be of less than 1 nor of more than 200 pesos, and subsequent deposits may not exceed 15 pesos per week. Stamps deposited are redeemable at sight in cash. In the first month there were 1,433 depositors. The object of the bank is to encourage savings and thrift among the people of Uruguay.

The administrative council of the Department of Montevideo has requested congress to authorize an issue of BONDS OF THE INTERIOR DEBT, known as "municipal bonds, 1920," to the amount of 18,000,000 pesos, bearing interest at 6 per cent per annum. These bonds are to be used as follows: In payment of the debt of Baring Brothers, London, 4,200,000 pesos; laborers' houses and professional schools, 1,000,000 pesos; sanitary works, 1,000,000 pesos; paving in the city of Montevideo, 500,000 pesos; slaughterhouses, 1,100,000 pesos; markets, 300,000 pesos; municipal laundries and public baths, 200,000 pesos; crematory and completion of the incinerating plant, 300,000 pesos; improvement of the lower part of the old city of Montevideo and the completion of the respective driveway, 2,000,000 pesos; municipal expropriation, 2,200,000 pesos; construction of Carraseo Hotel, 700,000 pesos; construction of the municipal palace, 1,700,000 pesos; construction of terraces at Ramirez Beach, 350,000 pesos; establishment of a restaurant in Rodó Park, 50,000 pesos; lands for the municipal theater, 800,000; construction of the Wilson and other driveways, 1,000,000 pesos; refund in 1919-20

on Wilson driveway and Carrasco Hotel, 350,000 pesos; and 250,000 pesos for the establishment of a municipal bakery, a municipal restaurant, and a department for the pasteurization of milk. These bonds are to be redeemed from the municipal taxes on vehicles, lighting, etc.

The amount of the war or PATRIOTIC FOREIGN LOANS subscribed in Uruguay to June, 1920, aggregated 13,000,000 pesos gold.

In June, 1920, the REVENUES amounted to 3,533,765 pesos, as compared with 2,365,053 pesos during the same period of 1919. The revenues from July 1, 1919, to June 30, 1920, were 36,631,653 pesos, of which amount 15,885,418 pesos were customs receipts.

The MORTGAGES recorded in June, 1920, totaled 3,349,912 pesos, covering 507 properties. Four hundred mortgages were canceled during that month, representing a value of 1,859,718 pesos. During the first half of 1920 there were 2,740 mortgages issued, representing a value of 17,941,513 pesos. The mortgages canceled during the six months referred to numbered 2,456 and represented a value of 12,555,495.

A general statement of the BANKS of Uruguay in July, 1920, shows a total capitalization of 33,656,445 pesos, of which 11,245,883 pesos represent the capital of private Uruguayan banks, 3,727,222 pesos that of foreign banks, and 18,683,340 pesos that of the Bank of the Republic. The gold coin minted to that date amounts to 60,145,250 pesos.

VENEZUELA.

In the first six months of 1920 the net profits of the BANCO DE VENEZUELA amounted to 1,893,105 bolivars (bolivar par equals \$0.1930), which, added to the balance of the previous year of 1919, gives a total of 1,952,107 bolivars, distributed as follows: Guarantee fund, 283,966 bolivars; reserve fund, 189,310 bolivars; upkeep, 8,611 bolivars; administration, 7,261 bolivars; dividends, 1,440,000 bolivars, leaving a balance of 22,959 bolivars for the second semester of 1920.

In accordance with a presidential decree an ADDITIONAL CREDIT of 1,000,000 bolivars has been voted for the budget of expenditures for the department of foreign relations.

The ministry of promotion has issued a resolution regulating the collection of the NATIONAL TAX ON PUBLIC TELEPHONES. The tax varies in accordance with the volume of business from 5 per cent to 15 per cent per year on intercity and town calls. The tax will be collected yearly at the rate of percentage fixed by the Government agent in charge of regulating the Government accounts.

PUBLIC INSTRUCTION AND EDUCATION

ARGENTINA.

The municipality of Buenos Aires has ceded to the NATIONAL SCHOOLS (Escuelas Patrias) 34,000 square meters of ground for use in the development of certain departments of their courses of instruction.

In 1918 there were 1,720 primary schools in the Province of Buenos Aires, with a total matriculation of 214,233 pupils, made up of 113,790 males and 100,443 females. These schools employed 5,624 teachers, 5,148 of whom were women. During the same year there were 321 private schools in operation in the province referred to, with matriculates numbering 28,986 and 1,166 teachers.

Forty-four of the 48 pupils who completed the first course in the PRACTICAL SCHOOL OF AVICULTURE of Buenos Aires successfully passed the examinations. The second course, which was recently opened, had an enrollment of 60 pupils.

At the meeting of the CONGRESS ON THE FOOT-AND-MOUTH DISEASE, held in Buenos Aires in September, 1920, the following resolution was adopted: "The International Foot-and-Mouth Disease Congress invites the faculty of medical sciences to include in the program of the study of pathology and epidemiologic clinics a special chapter on the comparative study of the foot-and-mouth disease in relation to the determining causes of animal infection of human beings."

The minister of public instruction has approved the plan of study of the SCHOOL OF AGRICULTURE, stock raising, and allied industries, established under law 10861, and the decree of March 18, 1920. The school is authorized to confer the titles of agronomic engineer, forestal engineer, and veterinary engineer on its graduates.

An ANTI-ALCOHOLIC SCHOOL EXHIBIT was recently held in Buenos Aires under the auspices of the National Board of Women of the Temperance League.

BRAZIL.

On September 7, 1920, the Government founded the University of Rio de Janeiro, uniting therein the three branches of HIGHER INSTRUCTION already established, namely: A school of medicine, a polytechnic school, and a school of law.

The Hahnemann SCHOOL OF MEDICINE in Rio de Janeiro recently established chairs of allopathic medical clinics and allopathic therapeutical clinics.

The pupils of the military school will erect and unveil during the centenary celebration of Brazilian independence a MONUMENT in honor of and containing the remains of Antonio Joao Ribeiro, the hero of Dourados.

The rules and regulations for the Gericino MILITARY TRAINING CAMP were approved by the President of the Republic on July 28 last. Instruction will be given in this camp in target practice, testing of war materials, manœuvres, etc.

CHILE.

The FIRST CONVENTION OF CHILEAN STUDENTS was held recently in the University of Chile in Santiago. Pedro Leon Loyola was elected chairman of the convention. Discussions were held and resolutions passed concerning the aspirations and future of Chilean students.

Under the auspices of the minister of public instruction of the Chilean Government the first DORMITORY FOR GIRLS was recently opened in the capital of the Republic in connection with the University of Chile.

The Chilean Red Cross has established a course for FEMALE NURSES along the lines followed in the training of nurses during the late war.

The board of public works has approved a plan for the erection of a HIGH SCHOOL BUILDING for boys at Yumbel. The structure is estimated to cost 155,000 pesos and will accommodate 320 students.

The council of state has ordered the establishment of an Agricultural University in Santiago in accordance with the plan submitted by the department of industry. This university will have departments of agronomy, veterinary science, chemistry, and industrial arts; and is authorized to confer titles on its graduates and issue diplomas and medals to agronomic engineers, veterinary surgeons, and chemical and industrial engineers.

A course of AGRICULTURAL INSTRUCTION is being given at the Quinta Normal in Santiago for the benefit of teachers in the rural schools of the Province of Santiago. Similar courses are planned to be opened in other parts of the Republic.

COLOMBIA.

The most important SECONDARY AND PROFESSIONAL SCHOOLS of the Department of Antioquia open during 1919 were the following: Young Ladies' Normal School, 160 students; Central

College for Young Ladies, 197 students; College de la Presentación, 453 students; College of Teaching, 215 students; College of Maria Auxiliadora, 90 students; Institute Lopera Berrío, 98 students; Normal School for Boys, 65 students; Law School, 56 students; School of Medicine, 135 students; National School of Mines, 115 students; Consular Seminary, 154 students; College of San Ignacio, 360 students; University of Antioquia, 218 students; Liceo Antioqueño, 396 students; and the College of San José, 255 students.

The directive council of the School of Mathematics and Engineering has prepared a course of study for the **DEGREE OF ARCHITECTURAL ENGINEER**. The following subjects are contained in the course: First year, analytical and commercial arithmetic, industrial accounting, algebra, plane geometry and geometry of space, rectilinear trigonometry and chemistry; second year, analytical geometry and descriptive geometry, elementary mechanics, special physics, mineralogy and geology; third year, spherical trigonometry, cosmography, topography, infinitesimal analysis, rational mechanics, stereography and graphic esthetics; fourth year, resistance of materials, stability of construction, construction materials, art of construction, civil architecture, reinforced concrete, special physics, architectural composition and the ornamentation and decoration of buildings; fifth year, the history of architecture, plans for private dwellings, organization, models, construction hygienics, administrative law, civil law; sixth year, history of architecture, public-building plans, models, city development, sanitation of towns, political and industrial economy. Aside from these subjects the course includes six years of drawing.

The base of university extension courses has organized four **TRAVELING SCHOOLS** to teach the country dwellers to read and write. These schools, which will operate in Boqueron, Tunjuelo, Casablanca, and Fontibon, will also conduct an active antialcoholic campaign.

COSTA RICA.

The General Confederation of Labor of Costa Rica has decided to found a **LABOR UNIVERSITY** which shall make education more general among the laboring classes and in particular those branches of learning connected with the trades. According to the plan the labor university will have no special governing body nor fixed faculty, but will be governed by the executive committee of the confederation, the chairs of the various branches of study being occupied by capable laborers who volunteer for this work.

CUBA.

The department of public instruction opened the new enrollment in the **SCHOOL OF THE HOME**. Students are required to be over 15 years of age and under 25. The school course lasts nine

months and the girls are taught the management of the home. Of the 30 students who have completed the course successfully, 18 were chosen to take up further studies to fit them to be assistant instructors in the school.

The head master of the Normal School of Habana, Dr. Alfredo Rodríguez Morejón, has invented MODELS FOR THE OBJECTIVE TEACHING OF GEOMETRY. The Cuban Government has authorized him to proceed to the United States to place the manufacturing of these models with firms which make school supplies.

A presidential decree concedes an additional daily allowance of \$3 to the PROFESSORS OF THE NORMAL SCHOOLS who are to remain out of the country to perfect their studies. Before the provisions of this decree went into effect, in accordance with the law of March 16, 1915, the professors had only \$3 a day as allowance, whereas they now have \$6.

ECUADOR.

The Government has requested authority of the Legislative Power to establish an AVIATION SCHOOL in the city of Guayaquil, and to engage skilled instructors and foreign experts to teach therein. It is suggested that Italian aviators now in Ecuador, and whose fitness has already been shown by practical tests, be engaged for this service.

In compliance with an invitation of the Government of the United States to that of Ecuador to send Ecuadorean students to North American MILITARY SCHOOLS, appointment has been made by the Ecuadorean Government of the following persons: Lieut. Julio C. Vinuesa, to enter the aviation school at Carlstrom Field, Arcadia, Florida; Sergt. Virgilio Guerrero, to attend the artillery school at Fort Sill, Oklahoma; and Sergt. Guillermo Freile, to enter the aviation school of March Field, Riverside, California.

GUATEMALA.

A school of ARTS AND CRAFTS has been opened in the city of Quiche, capital of the department of that name.

The Government has established a NIGHT SCHOOL in the Central Penitentiary of Guatemala.

Data furnished by the bureau of statistics show that in September, 1920, the SCHOOLS of the Republic had 55,100 matriculates, with an average attendance of 47,382 pupils.

MEXICO.

The government of the State of Yucatan has established an INTENSIVE COURSE in the normal mixed school of Merida for the preparation of rural teachers, and has provided scholarships for pupils from each of the 32 departments of the State.

The State of Yucatan has granted a subvention to the board of agriculture of that Commonwealth to aid it in founding a SCHOOL OF AGRICULTURE. The Government retains the right to 16 scholarships in the school.

A recent executive decree places under the direction of the university department the following CENTERS OF PUBLIC INSTRUCTION: Bureau of Public Education, National Preparatory School; National Boarding School, and the normal and technical schools formerly controlled by the Government of the federal district. Primary, penal, and correctional schools remain under the economic and administrative direction of the government of the federal district, but the technical administration is under the university department. Salaries, fees, etc., will be paid out of the funds of the federal treasury.

Some time ago the President of the Republic recommended that the governors of the different States establish as many PRIMARY SCHOOLS in their respective jurisdictions as possible. The result has been the founding of the Literacy League presided over by the President of the Republic, assisted by high officials of the Government. The necessary steps have been taken to open some 6,000 new primary schools throughout the country.

NICARAGUA.

Señorita María Clotilde Vega has been appointed by the Government of Nicaragua to go to the United States to take an advanced TEACHERS' COURSE. Señorita Vega will remain three years in North America, when she will return to Nicaragua to teach in the normal school.

The ministry of public instruction has created places for two TRAVELING TEACHERS OF HORTICULTURE, who will teach this subject in the primary schools of the Republic.

The Government has decided to grant SUBSIDIES TO THE COLLEGES hereinafter mentioned: \$250 a month to the National Institute of Occidente of Leon; \$150 to the Collegiate Seminary of San Ramon of Leon; \$140 to the College of San Luis at Metagalpa; \$150 to the Boys' Institute of Masaya; \$50 to the Municipal Institute of Jinotepe; \$326 cordobas to the National Institute of Oriente in Granada; and \$100 to the Institute of Rivas.

PANAMA.

The School of Arts and Crafts of Panama held a STUDENTS' EXPOSITION, showing machinery parts made by the students, pieces of foundry work—among them an 800-pound crusher wheel, sledges, irons, and other tools. There were shown also delicate wood carvings and other exhibits of interest.

PARAGUAY.

The National Council of Education has decided to acquire 100,000 school books, of the following series: 50,000 copies of the first, 30,000 of the second, and 20,000 of the third books of the set of READERS prepared by Señor José H. Figueira.

The administrative commission of the Paraguayan Institute has approved a plan for physical culture in that institution and other schools. The students of the institute are to be taught wrestling and fencing; gymnastics will be given by a corps of professors in the schools and colleges of the Republic; the instruction of the greatest number of inhabitants possible in physical exercises will be encouraged by local championships, national and international games, and by propaganda in favor of physical development through lectures, sporting publications, etc.

PERU.

The Federation of Students of Peru has made AGREEMENTS with the students' federations of the Argentine Republic and Venezuela for intellectual interchange by means of books—scientific, historic, literary, sociologic—and artistic monographs, excursions, and international congresses. Efforts will be made to improve methods of public instruction and to encourage study among the people of the respective countries. A consideration of social problems and the maintenance of popular universities are among the proposed activities of the federations. An active propaganda will be made in favor of American ideals, an interchange of students, and the cementing of friendship by closer bonds between the American nations.

SALVADOR.

The corner stone of the NATIONAL UNIVERSITY BUILDING has just been laid in San Salvador with appropriate ceremonies, the President of the Republic, the cabinet officers, and the diplomatic corps being in attendance.

The ART ACADEMY, entitled "La Renovacion," an educational institution recently founded, is carrying on an important work in the intellectual development of San Salvador. The academy has established courses in languages, philosophy, literature, oratory, etc. The enrollment at the present time is 45 pupils.

URUGUAY.

For 1920 the enrollment in the UNIVERSITY OF THE REPUBLIC was as follows: In the preparatory department, 2,850 students with 182 teachers; law department, 320 pupils and 36 teach-

ers; medical department, 837 pupils and 94 teachers; and the department of mathematics, 158 pupils and 32 teachers.

An INDUSTRIAL SCHOOL for women was recently opened in San Jose. Instruction will be given in dressmaking, millinery, and lacework; cutting, fitting, and corset making; knitting and basket making; drawing, typewriting, and stenography.

By order of the medical board of Montevideo, free courses in MEDICAL AND SURGICAL CLINICS have been organized in several departments of the university and at Maciel Hospital.

The PEDAGOGICAL MUSEUM in Montevideo has been divided into a library and a museum section. The museum section has a lecture hall and moving-picture equipment, which it uses in connection with its work.

The Medical School of Rio de Janeiro has presented to the Medical School of Montevideo a series of WAX CASTS, as an addition to the donation formerly made to that institution by the medical school referred to.

VENEZUELA.

In accordance with a governmental decree, to be admitted as a student to the SCHOOL OF WIRELESS TELEGRAPHY founded in accordance with the resolution of July 23, 1920, the following conditions must be fulfilled: The student must be over 18 years of age and under 35; must possess a certificate of superior primary instruction; must possess a health certificate; and seek admission within the terms of the law.

The Government is establishing new PRIMARY SCHOOLS throughout the Republic, specially in the States of Merida, Sucre, New Spain, Bolivar, Aragua, Carabobo, Miranda, and Anzoategui.

The Supreme Council of the Venezuelan Red Cross has decided to organize a CHILDREN'S RED CROSS in all the colleges and schools of the Republic, making the pupils members.

The Government of the Republic of Venezuela has been invited by the SCHOOL OF FOREIGN SERVICE of Georgetown University to send two Venezuelan students for one year, or one student for two years, to take a free course in the school. This invitation has been offered as a result of the Venezuelan Government's courteous treatment of the Georgetown students sent to Venezuela.



GENERAL NOTES

ARGENTINA.

The committee of asylums and regional hospitals has been authorized to acquire an edifice in the city of Corrientes for the installation of an ANTITUBERCULOSIS HOSPITAL. The same committee has been authorized to construct a building for dairying and annexed uses, and another for the breeding of animals in the regional colonial asylum for abandoned children, at Oliveira, Province of Buenos Aires.

Orders have been issued for the commencement of construction work on the SEWERS AT BAHIA BLANCA. These sewers are to be built like those in Buenos Aires. The estimated cost of the work for a city of 400,000 inhabitants is 4,400,000 pesos.

In September, 1920, the CHARITY HOSPITAL in the City of General Alvear was inaugurated.

The FIRST HABITATION CONGRESS met in Buenos Aires in September, 1920. The following questions, among other things, were discussed: Relief of the housing problem; new legislation concerning dwellings; recording of leases; local rent tariffs; inspection of dwellings; financial measures tending to facilitate the construction of buildings, etc.; and improvements in rural homes.

Dr. Jesus Urueta, the new MINISTER of Mexico near the Argentine Government, was recently formally received by the President of the Republic.

In September, 1920, an exhibit of fresh, salted, dry, and pickled FISH, as well as fish preserved in oil, and other Argentine fish products, was held in Buenos Aires.

Numerous ARCHEOLOGIC OBJECTS, such as stone hammers, arrow heads, ashes, skulls, and human bones, were recently unearthed in Chorillo Valley, near the place where similar antiquities were found in 1919, on the site of a supposed aboriginal village.

The senate has approved a bill providing for the establishment of a NATIONAL SUBSISTENCE BOARD, the object of which is to reduce the price of articles of daily consumption, insure an adequate supply of same, facilitate an equitable distribution of food products, fuel, clothing, etc., and prevent speculation and monopoly. Government, banking, commercial, industrial, farming and labor interests will be represented on the board.

During the first half of 1920 the PERSONS ARRIVING IN THE REPUBLIC numbered 97,859, and those departing 87,396, leaving a net gain in population from this source of 10,463. In 1919 the number of persons entering the Republic was 148,754 and the number leaving 136,584.

The city of Buenos Aires recently paid homage to JOSÉ MARTÍ, the Cuban patriot, statesman, and writer by giving his name to one of its streets, and by placing a bronze plaque, suitably inscribed, in a central point in the city.

BRAZIL.

In February, 1921, the SIXTH ESPERANTO CONGRESS of Brazil will meet in Rio de Janeiro. The chairman of the organizing committee is Dr. Antonio Carlos de Arruda Beltrão, and the secretaries are Jose M. Reis Perdigão and Odillo Pinto.

The French Government has arranged with the South Atlantic Navigation Co. for a POSTAL SERVICE between France and Brazil under the supervision of the French ministry of public works.

The Brazilian Government has decided to establish on the Ilha das Flores (Island of Flowers) in the Bay of Rio de Janeiro a MARITIME SANITARY POST for the reception of immigrants. This will render unnecessary the use of the lazaretto on Ilha Grande (Great Island), which is very near the city of Rio de Janeiro. The Government also operates an immigrants' hotel on Ilha das Flores.

Representatives of 73,000 Brazilian fishermen recently met in Rio de Janeiro and organized a GENERAL CONFEDERATION OF THE FISHERMEN OF BRAZIL.

An AGRICULTURAL STOCK FAIR will be held in Porto Alegre, State of Rio Grande do Sul, early in September, 1921.

Steps have been taken by the French Government to erect a building for its EMBASSY in Rio de Janeiro, the approximate cost of which will be 4,000,000 francs.

CHILE.

The department of justice has issued a decree providing for the appointment of administrators to serve for three years in the PENAL SCHOOLS for both men and women. The duties of these administrators will be to see that food is furnished prisoners in accordance with the laws of the country, look after the sanitation of prisons, the health and morals of prisoners, and provide such medical services as may be needed by prisoners.

Under the direction and at the expense of a number of ladies in Valparaiso and Viña del Mar a NURSERY has been installed in Miramar in a beautiful, well-equipped modern building.

The Department of Public Works has approved the plan submitted by Camilo Pizarro for the construction of twelve BRIDGES on the highway from Hualani to Iloca at a cost of 194,343 pesos. The department has also ordered the expenditure of 290,000 pesos in repairing the roads of the Province of Valparaiso.

An ARCHITECTURAL EXHIBIT was recently held in Santiago by the Club of Students of Architecture of the University of Chile.

A special section has been organized in the Department of Foreign Relations to have charge of questions concerning the League of Nations, and other international affairs, such as international law, education, social legislation, etc.

The SALVATION ARMY proposes to establish a popular restaurant in Valparaiso for the purpose of furnishing meals to the poor at the lowest possible price. This organization has also planned to maintain a home for indigent women in Valparaiso.

A branch of the ASSOCIATION OF INTERNATIONAL LAW, founded in London in 1873, has been established in Chile.

COLOMBIA.

Four bridges—two iron and two of reinforced concrete—were opened to traffic in Antioquia. One is across the Riochico, the second across the Belmira, the third across the Hojasanchas, and the fourth across the Espaderas.

The **COMPANIA DE URBANIZACION** has been organized in Bogota to lay out a workmen's addition, with houses built on the "Ciudad de Sol" plan, prepared by the Italian engineer Señor Roveda.

A **RADIO STATION** has recently been established by English engineers in Puerto Colombia, according to a contract made by the Colombian Government with the Marconi company.

The Government has made a contract with William Lee Sisson to make a **SCIENTIFIC SURVEY** of Colombian territory between the Department of Boyaca and the coast of the Atlantic. The purpose of this survey is to determine the most practical route for a railway in relation to towns and department capitals.

The ministry of foreign relations has raised to a **CONSULATE GENERAL** the vice consulate of Colombia in Leon, Nicaragua. The vice consulate in Alicante, Spain, has been raised to consulate ad honorem.

By decree of the ministry of war the **MALTESE CROSS OF THE CENTENARY OF BOYACA** has been conferred upon Gen. Eliecer Gómez Mayoral and Maj. Carlos Padilla as reward for their efforts in behalf of the Colombian army.

During excavation for a house in the municipality of Caparrapi **PREHISTORIC REMAINS AND IMPLEMENTS** were discovered. Some of the most interesting things found were Indian heads with gold nose rings, idols, jars, vessels, and urns of clay of ancient and artistic design.

A draft of a constitutional amendment has been presented to congress by the President which may lead to a future **ANTI-ALCOHOLIC LAW**. By this law production as well as the sale and consumption of alcoholic beverages may be limited.

The departmental government of Valle has ordered the foundation of a **PENAL COLONY** to be called "Ulloa," to be situated in the unclaimed lands of El Madroñal. The colony will have an agricultural camp of correction for minors, which will be operated separately from the penal colony.

AN ELECTRIC PLANT was recently put in operation for light and power in the town of Sitionuevo, Department of Magdalena.

On September 18, 1920, Bogota celebrated the inauguration of **AVENIDA SANTIAGO DE CHILE**, a street in one of the finest sections of the city.

COSTA RICA.

The Sociedad Mariana de Caballeros has decided to erect a **BRONZE BUST OF DR. BERNARDO AUGUSTO THIEL** in the park of the episcopal palace of San José. The unveiling will take place in September, 1921, as part of the Centenary Celebrations to be held in Costa Rica.

The ministry of foreign relations has recognized Herr Erich Scholz as **GERMAN CONSULAR AGENT** in Port Limon.

A **GROUP OF PANAMANIAN BOY SCOUTS** recently made a visit to Costa Rica, where they were enthusiastically received by the Costa Rican Boy Scouts.

CUBA.

The ministry of foreign relations has extended permission to Señor José Buigas to exercise the functions of SPANISH CONSUL in the city of Habana. The ministry has also authorized the transfer of the following chancellors: Señor Marino Estrada y Velázquez from the consulate at Bordeaux to La Havre; Señor Rogelio Toñarely y Chaumont from the consulate at Rome to Bordeaux; Señor Valentin Rivay Abreu, from the consulate at Mobile to Coatzacoalcos; and Señor José Barraque y González from Coatzacoalcos to Mobile.

Dr. José A. Hernández Ibáñez has been appointed by the Cuban Government to go to the United States to study the organization and methods of the CURE AND PROPHYLAXIS of venereal diseases and make a report of the same to the department of health and public charity of Cuba.

The special ruling for the VETERINARY SERVICE OF THE ARMY has been approved by the President and goes into effect immediately. The service is organized for the following purposes: To care for sick animals belonging to the army, isolating or sacrificing animals suffering from contagious diseases, in order to avoid epidemics; to instruct the army in the care of its animals; to determine the proper feeding of animals; to install the most modern methods of acclimating animals and whatever else may tend to keep them in good condition for army use.

The department of public instruction and fine arts has called an international contest for the erection of a STATUE TO AVELLANEDA, the noted Cuban poetess. The statue and pedestal will cost \$18,000. The poetess is to be sculptured as seated and wearing a crown of laurel, which she received in Habana in 1860. The artists may use any material except that the figure itself must be of white marble of the finest quality. The statue will be placed in the Pablo Trías Plaza, in the city of Camaguey. The models will be received at the Arts and Crafts School of Habana up to April 10 of the present year.

In 1919 the VITAL STATISTICS of the municipality of Habana were as follows: Births, 9,908, as against 9,756 in 1918, or an increase of 252; deaths, 7,629, as against 7,942 in 1918, or a decrease of 313; marriages, 6,246, as against 6,960 in 1918, or a decrease of 714.

DOMINICAN REPUBLIC.

The Columbus edition of the BLUE BOOK OF SANTO DOMINGO is now being prepared by the Pan American Publicity Corporation. This will be a special edition, dated 1921, and beside features in binding and printing will contain the history of the island from the time of its discovery until the present. The proceeds from the sale of this edition of the blue book will be used by the Cristobal Colon Historical Society to restore and preserve buildings and monuments of the colonial period and to found a museum of historical relics.

ECUADOR.

Recently the remains of the PATRIOTS of Ecuadorean independence, which were interred in the cemetery in Lima, Peru, were

sent to Ecuador in charge of Dr. Bolaña, the consul of Ecuador in Lima.

An interesting STOCK FAIR, under the auspices of the Centenary Patriotic Board and in cooperation with the Association of Agriculturists of Ecuador, has just been held in Guayaquil. Fine exhibits of horses, cattle, mules, goats, dogs, and fowls were made.

The President has appointed Alfonso Vizeu CONSUL of Ecuador in Rio de Janeiro.

An executive decree provides for organizing the ECUADOREAN RED CROSS under the orders of the Central Charity Board. The institution will adopt by-laws and will be recognized as a juridic entity, with power to negotiate directly with the international committee at Geneva and the Red Cross organizations of other countries. The Ecuadorean committee will consist of the director general of public charity (chairman), a treasurer, a secretary, and 10 members appointed by the Central Board of Charity.

GUATEMALA.

The President of the Republic has appointed the following CABINET: Luis P. Aguirre, minister of foreign relations; Emilio Escamilla, minister of war; Felix Castellanos, minister of fomento (Promotion); José Vicente Martínez, minister of government and justice; José Guillermo Salazar, minister of public instruction; José A. Medrano, minister of finance and public credit; and Antonio Bouscarol, minister of agriculture.

Licentiate Pedro Arenales has been appointed CONSUL GENERAL of Guatemala in New Orleans, to take the place of Mariano Crespo, resigned.

The President has appointed Dr. Julio Bianchi MINISTER of Guatemala in Washington and Licentiate Miguel Prado secretary of the legation in Washington. The Government has also recognized Francisco Cabezas Gómez as minister of Costa Rica in Guatemala.

HAITI.

The President has given exequators to the following NEW CONSULS: United States Consul Avra N. Warren, Cape Haitien; United States Vice Consul Henry Averill, Port au Prince; and M. Hyacinthe Anglade, French consular agent at Aquin.

H. Louis Roy has been appointed MINISTER OF THE TREASURY to succeed former minister Fleury Fequiere. M. Roy was holding the portfolio of minister of public works.

HONDURAS.

The department of foreign relations of Costa Rica has accredited a DIPLOMATIC MISSION near the Government of Honduras. This commission will remain in Honduras for some months.

MEXICO.

Preliminary steps have been taken toward a world's fair to be held in the City of Mexico some time during the present year. The plan has the support of the national and foreign chambers of commerce established in the capital of the Republic.

The church has approved the plan of the archbishop of Guadalajara, Dr. Orozco y Jimenez, to erect a NEW BASILICA that may surpass

in beauty the most famous temples of America. The corner stone will be laid on September 21, 1921, in celebration of the centenary of the independence of Mexico.

PULLMAN CAR service, which had been suspended in the Republic for a number of years, has recently been renewed.

Mario Legorreta has applied for a patent of invention to teach MUSIC stenographically in accordance with his "musical stenographic system."

There was recently founded at Celaya, State of Guanajuato, the COUNCIL OF THE THREE WARS of the order of the Knights of Columbus.

NICARAGUA.

The Ladies' Committee of Charity has established a MILK STATION known as "La Gota de Leche" at the Children's Relief Home in Managua. A nursery is being operated in connection with the milk station.

Dr. Ramón Castillo has been appointed by the Government to represent Nicaragua in the CENTRAL AMERICAN UNION CONFERENCE organized by the Government of Salvador.

The ministry of foreign relations has appointed Señor Eduardo Pérez Triana Nicaraguan CHARGE D'AFFAIRES in Great Britain.

PANAMA.

On October 1, 1920, Dr. Belisario Porras was inaugurated as PRESIDENT of the Republic of Panama.

On Columbus Day, October 12, called in Latin America "Día de la raza" (Racial Holiday), to commemorate America's kinship with Spain, the corner stone of a MONUMENT TO CERVANTES was laid in Panama City.

PARAGUAY.

The PROGRAM OF THE ADMINISTRATION OF PRESIDENT GONDRA laid before congress has created a very favorable impression. The President makes the chief points the following: The reformation of the electoral law so that representation may be possible to organized party groups which under the present system are not represented; the revision and systematizing of taxation laws, principally those pertaining to the customs; the abrogation of antiquated treaties and conventions which no longer serve the interests of the country; the consolidation of the monetary system, and the increase of national production; and the extension of education facilities to the most distant hamlets of the country.

Mr. William Belmont Parker is now in Paraguay to obtain information for the work "PARAGUAYANS OF TO-DAY," which will be a part of the Biographical Dictionary of Spanish America which he is preparing with the help of the Hispanic Society of America.

The Government of Chile has presented the MEDAL OF HONOR to frigate captain Atilio Peña, of Paraguay, who made his naval studies with the Chilean naval squadron.

It is reported from Buenos Aires that the ministry of foreign relations in accordance with the wishes of the President, has requested from the ministry of the treasury all the papers connected with the WAR DEBT OF PARAGUAY, in order that a message may be drafted requesting the condonation of the debt placed upon Paraguay after the war of the triple alliance.

PERU.

Congress has enacted a law changing the capital of the District of Lucma from the town of Lucma to that of Suchipe, and providing for the erection of such public buildings at the latter place as may be necessary for the transaction of public business.

A committee has been formed to prepare a program for the festivities in connection with the celebration of the CENTENARY OF INDEPENDENCE in the Department of Cuzco, one of the features of which will be a visit to the ruins of the Incas existing in that Department.

In September last the town of Pisco celebrated the centenary of the LANDING OF SAN MARTIN. The President of the Republic and high officials of the Government participated in the festivities. The house of deputies presented the town of Pisco with a flag. The corner stone of the monument to be erected in honor of San Martin was laid and a commemorative plaque placed.

Congress has authorized the Executive to celebrate a competitive AVIATION CONTEST in which national and foreign aviators residing in the Republic are invited to participate. The contest will consist of a flight from Lima to Cuzco with but one stop. Prizes of 1,000 and 2,000 Peruvian pounds are offered to the successful aviators.

The nine French officers contracted by the Peruvian Government for the FRENCH MILITARY MISSION in Peru, recently arrived at Lima.

SALVADOR.

On September 14, 1920, the National University of Salvador celebrated the ninety-ninth ANNIVERSARY OF THE INDEPENDENCE of the Republic. During the ceremonies the five national hymns of the Central American Republics were sung, and speeches were made advocating fraternity and union of the Central American States.

A SOCIETY OF ENGINEERS has been organized in Salvador for the purpose of encouraging social and economic development among the members of the profession, and for the purpose of more closely cooperating with the Government and private parties in a consultative capacity and in matters of a technical character.

An Executive decree has just been promulgated providing for the improvement of the city of San Salvador along the following lines: Increase of the potable water supply; cleaning and flushing of sewers; and paving of the city. The cost of the work in the suburbs is to be paid by the owners of real property. In the city proper the landowners will be required to pay half the cost of street paving and the laying of conduits and sewers, the remainder to be paid by the National Government.

URUGUAY.

In July, 1920, the TRAVELERS entering Montevideo numbered 28,004 persons, 4,809 of whom came from abroad. The departures during the same period numbered 28,112 persons, 4,595 of whom were destined to points outside of the Republic.

During the first half of 1920 there were in the Department of Montevideo 2,058 MARRIAGES, 5,971 births, and 4,539 deaths. The population of the Department is 359,270.

The Executive Power has approved the plan for BOUNDARY SERVICE recently presented by the International Uruguayan-Brazilian Boundary Commission. The plan comprises the repair of the old and the placing of some new landmarks, the making of plans for proposed international works and roads, and geodetic triangulation between the Branco, the Yaguaron, and the mouth of the Cuareim Rivers.

Plans have been approved for the enlargement of the SALTO HOSPITAL by the construction of a building having accommodations for 100 beds, the use of the present building for surgical work, and other improvements. The estimated cost of these improvements is 200,000 pesos.

The FIRST AMERICAN DENTAL CONGRESS was held in Montevideo from September 15 to 24, 1920. About 100 delegates were in attendance representing the republics of Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Ecuador, Paraguay, Peru, Uruguay, and Venezuela. At the closing session of the congress the delegates selected Montevideo as the headquarters of the Hispanic-American Dental Federation and Buenos Aires as the next meeting place of the congress. The congress recommended a plan of studies for the teaching of dentistry, and adopted resolutions declaring that the title of dental surgeon (doctor en odontología) should be conferred on persons completing said studies; that reciprocity should be established with countries having standards equal or superior to those recommended by the congress; and that the American Governments institute an interchange of professors and students in their respective dental schools.

VENEZUELA.

The Venezuelan Government recently issued a decree voting a sum of 100,000 lire as a RELIEF MEASURE TO ITALIAN EARTHQUAKE SUFFERERS, which sum was given to the Italian relief committee in the city of Caracas.

In commemoration of the first CENTENARY OF THE BATTLE OF CARABOBO the municipal council of the District of Plata, State of Miranda, has declared the 23d, 24th, and 25th of July, 1921, to be holidays. At that time a statue to Gen. Ambrosio Plaza, who died in the battle, will be erected.

The governor of the State of Miranda has undertaken the construction of a new home for the POOR CHILDREN'S ASYLUM founded in the city of Ocumare de Tuy by the priest M. M. Bacalao.

The organization committee of the THIRD VENEZUELAN CONGRESS OF MEDICINE, to meet in July, 1921, is preparing the program for the meetings. The committee has appointed a vice president for each State of the union so that he may study its disease geography in order to determine the causes of its mortality rate, and means to reduce them. The first Venezuelan medical congress was held in Caracas in July, 1911, under the presidency of Dr. Alfredo Machado, at the instance of the Academy of Medicine; the second conference was held in January, 1917, under the presidency of Dr. F. E. Bustamante; the third will be held in Ciudad Bolivar in July, as stated above, under the presidency of Dr. J. T. Ochoa.



TABLE OF CONTENTS

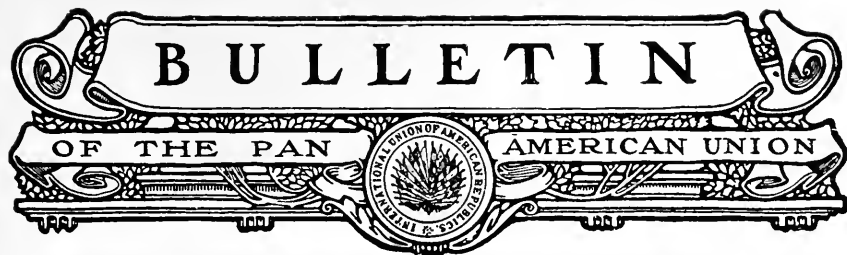
	Page.
Chile's New President.....	109
The Farewell of the Pan American Union to Secretary Colby.....	111
Reception of the Minister of Nicaragua.....	115
Across the Peruvian Andes on Mule Back.....	117
Pan American Relations.....	133
Two Scientific Associations.....	145
International Postal Convention.....	146
Argentine and United States Exchange.....	149
Section of Education of the Pan American Union.....	155
Foot-plow Agriculture in Peru.....	160
The Tamarind as a Fruit Tree.....	167
Agriculture, Industry, and Commerce.....	170
Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Salvador, Uruguay, Venezuela.	
Economic and Financial Affairs.....	185
Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Guatemala, Mexico, Paraguay, Peru.	
Legislation.....	191
Cuba, Peru.	
Public Instruction and Education.....	192
Argentina, Brazil, Chile, Colombia, Cuba, Ecuador, Honduras, Mexico, Uruguay, Venezuela.	
General Notes.....	197
Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela.	
Subject Matter of Consular Reports.....	206
Book Notes.....	208





SEÑOR DON ARTURO ALESSANDRI, PRESIDENT OF CHILE.

The new president was inaugurated on December 23, 1920, for a term of five years. Señor Alessandri is 51 years old and is a lawyer by profession.



VOL. LII

FEBRUARY, 1921

No. 2

CHILE'S NEW PRESIDENT

SENOR DON ARTURO ALESSANDRI, inaugurated on December 23 for the period of 1920-1925, is of Italian extraction, being the son of Don Arturo Alessandri and Doña Susana Palma, the daughter of the distinguished president of the supreme court. He was born on December 21, 1869, in Longavi, Department of Linares. His early education was given him in the fathers' schools. He then took up the study of law, receiving his diploma upon the completion of his course at the University of Chile.

President Alessandri's political career has been a series of triumphs. He was a successful lawyer as early as 1893, and in 1896 was secretary of the convention which elected Señor Errázuriz Echaurren for President. In 1898 he was elected by the liberal party as deputy for Curico, later becoming minister of state, holding the portfolios of industry and public works. He has held important posts under nearly every administration, being at one time minister of the treasury and under his predecessor, for a time, chief of the cabinet.

The new president has a strong personality, the gift of eloquence, and is fearless and generous. His personality has awakened a popular interest in politics, and he stands for the new doctrines relating to labor and economics which presage the advent of a new era of thought and understanding. He has promised important reforms, among which are the stabilizing of the exchange, the enfranchisement of women, proportional tax on incomes, measures for the protection of labor, etc.

Before his inauguration President Alessandri had intended to visit the United States, but was unable to make more than an extended tour of his own country, spending considerable time in Tarapaca, which he represented in the senate at the time of his election. Tarapaca is one of the most important industrial regions of Chile



LA MONEDA, SANTIAGO CHILE

Upper: Official residence of the President of Chile. Lower: Reception hall in La Moneda.

and shows President Alessandri's close connection with the labor questions which are daily assuming a greater magnitude.

In regard to international relations Señor Alessandri is in favor of a close and practical Americanism, and thinks that the World War taught statesmen and the people of every country to think internationally, and that therefore the nations of the American continents have more reason than ever to unify their effort toward progress, and to draw even more close those racial, moral, and cultural ties which count for more than material intercourse.

On the day Arturo Alessandri took the oath of office as President of Chile, in reply to a message of congratulation from Dr. L. S. Rowe, director general of the Pan American Union, he said:

Sincere thanks to the officers of the Pan American Union, and very particularly to the worthy director general, for their congratulations and their wishes for the prosperity of my country. In assuming these arduous and responsible duties, I also express my sincere wishes for the progress of the United States and for the strengthening of those close relations toward the development of which the Pan American Union has contributed so much.

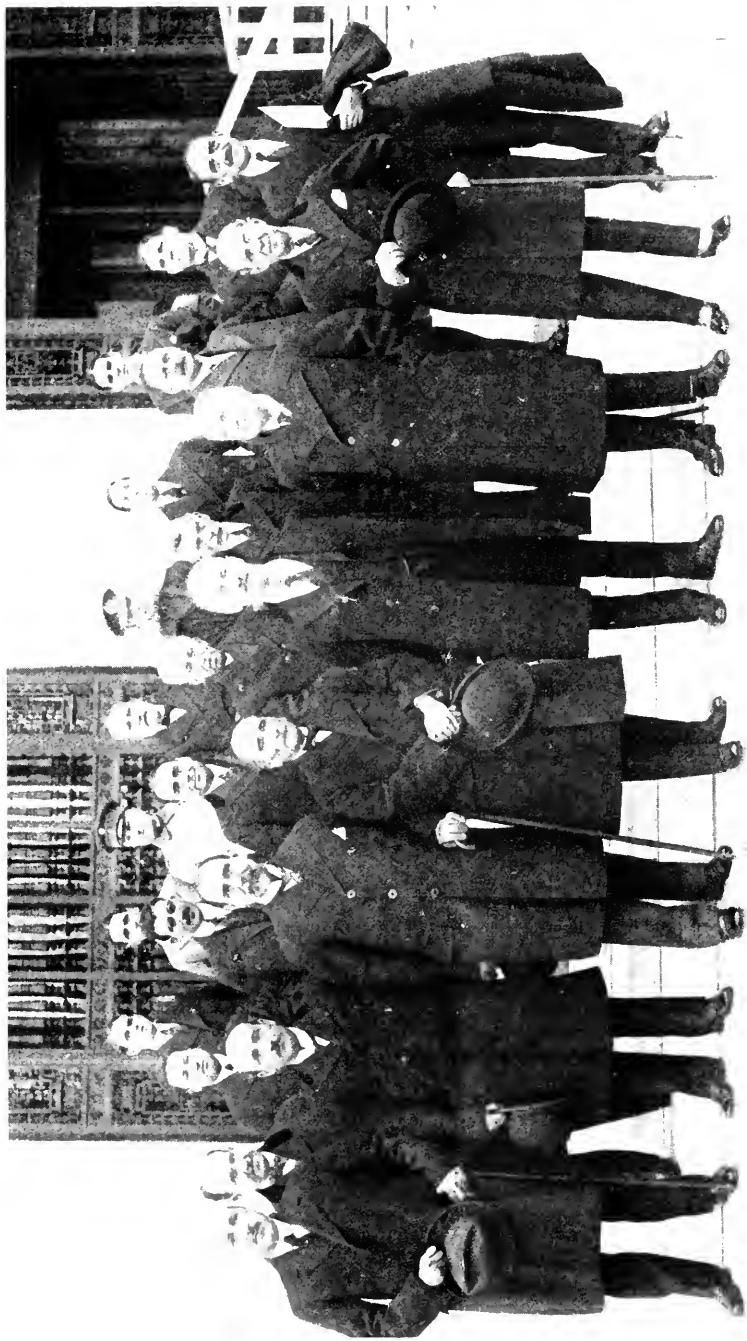
THE FAREWELL OF THE PAN AMERICAN UNION TO SECRETARY COLBY

THE Governing Board of the Pan American Union held a special meeting on December 3 to say "farewell" to the Hon. Bainbridge Colby on the eve of his departure for South America, where he went as representative of President Wilson to return the visits to Washington of the President-elect of Brazil and the President-elect of Uruguay. His Excellency Señor Don Beltran Mathieu, Chilean ambassador, dean of the diplomatic corps, made the following address:

MR. SECRETARY:

On the day when you first came to the Pan American Union to preside over the sessions of the Governing Board the honor of welcoming you fell to me. To-day I again enjoy the honor of addressing a few words to you in the name of my distinguished colleagues.

At the time in extending to you our welcome and greeting we assured you that with your high statesmanlike qualities, combined with our warm and earnest cooperation your duties as president of this international organization would be made relatively easy. It is a great satisfaction to all of us to be able to state at this time that this prediction has been fully confirmed. At this time it is even more gratifying to be able to say to you that, although we received you with cordiality at the time that



THE GOVERNING BOARD OF THE PAN AMERICAN UNION.

This photograph, which is the most recent of the Latin American diplomats in Washington and of the Director General and Assistant Director of the Pan American Union, was taken after the special meeting of the Governing Board, held on December 3, to bid farewell to Hon. Bainbridge Colby.

you took over the presidency of the Governing Board of the Pan American Union now, after having had the opportunity to learn to know you and at the moment when you are about to leave us, we, in bidding godspeed to his excellency the Secretary of State and president of our Governing Board, also say farewell with the warmest expression of personal feeling to our highly valued friend.

If on this occasion I permit myself to address you in this personal and familiar way, you are in a sense responsible. To the other splendid qualities which you possess there is added that personal attractiveness which has exerted a charm over all of us. We are certain, sir, that the same qualities which we have learned so deeply to appreciate assure the success of the high mission which you are about to undertake. You will carry to the peoples and governments before whom you will represent the eminent President of the United States the eloquent expression of a policy which has opened new and broader horizons of peace, and, at the same time, strengthened on our American Continent those sentiments of mutual confidence and solidarity which the American people have inspired by reason of a moral elevation even superior to their material greatness.

And in addition to all this, my dear Mr. Colby, you are going to make hosts of friends amongst nations open to the influence of noble sentiments, and amongst those sentiments there is none which is more highly appreciated than the sincerity which so markedly characterizes your personality.

We desire, sir, that you carry with you for the success of your great mission the warm wishes which are here expressed by the representatives of the American nations seated around this table. Combined with these warm wishes there goes with you the affectionate regard of each and everyone of us who feels proud to be considered amongst your friends.

Secretary Colby responded to Ambassador Mathieu as follows:

MR. AMBASSADOR AND MY DISTINGUISHED COLLEAGUES:

I can not let so beautiful an address, charged with cordiality and sincere good feeling and friendship, pass without leaping to my feet to make at least an effort at suitable acknowledgement. I can not tell you how touched I am by the importance that you have seen fit by your presence here to-day to give my departure for my visit to the Southern Hemisphere. You could have hardly done a more inspiring thing. You could have hardly done anything that would have given me a more memorable pleasure. I have had a very peculiarly pleasant relation with the diplomats who have represented the Latin American countries. No man whose feelings are sound and right could find himself most suddenly and unexpectedly placed in the position of the American Secretary of State without a feeling of great trepidation and of great misgiving as to his qualifications and of great longing to have the support, the cooperation, the confidence of his fellow workers, without which it would be idle to expect any measure whatever of success. I shall always remember that the first members of the diplomatic corps to greet me, the men who came to me with the most unmistakable cordiality, with the simplicity and the candor and the directness that meant so much to me in those early weeks, were yourselves, and I shall never cease to be grateful to you. There are no members of the diplomatic corps who are more respected professionally in Washington than you. There are no men who have addressed themselves with more seriousness to the mastery of this splendid profession of diplomacy than you. There are no men who wield a greater influence by reason of their scholarship, of their position in your profession than you, and it is one of the distinguished privileges and recompenses of the position of Secretary of State that he sustains this ex-officio relation to you and which affords him this recurring opportunity of meeting you. I consider myself very highly privileged, gentlemen, to be the bearer of America's good will to the countries that I shall visit. It is a very great honor to be deputized by Woodrow Wilson to return a visit to Brazil and a visit to Uruguay

which he himself had intended to do had his health and strength permitted. It is a very happy circumstance that I find myself so near to the Argentine Republic that I shall be able to visit that beautiful modern city of Buenos Aires. I have received some very cordial and touching invitations from other countries of South America, and I have given very earnest and long consideration to the possibility of enlarging my trip beyond the limits originally projected; but I shall be under no necessity of lengthy explanations to you who are part of the life of the American capital when I tell you that conditions here do not permit of that prolongation of my visit. I must hurry back to my post here in Washington, where so many pressing questions call for my presence and will hardly excuse my absence."

I spent more than two hours with the President of the United States yesterday. I mention that because that is a very long interview with the President of the United States. It shows the very great interest he feels in my approaching trip. We talked of nothing but the trip. I do not know that there is anything the President feels more deeply than the sense he has of South America's appreciation of the great ends and the great ideals he has sought to conserve and promote.

I am going to be back very soon, almost before you have experienced the full measure of the relief which my absence may afford you. I only wish I could visit all of your countries. I only wish I could stay longer among your people. I only wish that the American people could have a voice and personality who would more adequately embody and bring to your people the great common interest that is felt in the United States for her sister Republics of America. You must have appreciated that there is not an audience in America where you have found yourselves unappreciated or a lack of enthusiasm and interest for your countries. You can scan the utterances of our public men and can find nothing but evidences of good will, interest, and admiration which is felt in this country for your people. Most of us do not differ fundamentally. Different localities mean change of color but not of structure. Cultivation and honor have no meridians of latitude. A gentleman, a man of honor, a man of faith, a man of conscience, is the same thing the world over. Civilization is in the custody and guardianship of such men in all the countries that belong to the corporate body of the Pan American Union.

In the spirit of that great fraternity I take my brief and temporary leave of you. I shall miss you. I hope I shall be welcome on my return. I can not take my seat without expressing to you on behalf of the President the sincere appreciation of your generous expressions. Will you permit me, on my own behalf, to express my appreciation of your kind words. Gentlemen, God bless you while I am away. May your work prosper. I shall look forward to greeting you on my return.

As is customary on such occasions the ambassador spoke in Spanish and the Secretary of State in English. At the close of the meeting the members of the Governing Board of the Pan American Union were photographed in a group before one of the entrances to the Pan American Building in Washington.

Secretary Colby left the United States from the port of Norfolk on the U. S. S. *Florida* on December 4. The members of his party were: Maj. Gen. Adelbert Cronkhite, Admiral S. M. Bassett, Col. William Kelly, jr., and Capt. E. S. Ross, all of the Army or Navy of the United States; William H. Beck, secretary to Mr. Colby; and Dr. William Sherwell. A personal staff of translators, stenographers, newspaper correspondents, and moving-picture men accompanied the distinguished traveler.

RECEPTION OF THE MINISTER OF NICARAGUA . .

PRESIDENT WILSON, on January 5, 1921, officially received His Excellency Señor Dr. Alejandro César, envoy extraordinary and minister plenipotentiary from Nicaragua to the United States. In presenting his credentials the new minister read the following address:

Mr. PRESIDENT:

I have the honor to place in the hands of Your Excellency the letters which accredit me in the capacity of envoy extraordinary and minister plenipotentiary of the Republic of Nicaragua near Your Excellency's Government, together with the letter of recall of my distinguished predecessor, the Most Excellent Señor Don Diego M. Chamorro, who has just been called to the chief magistracy of the nation by a great majority of the Nicaraguan people.

It devolves upon me at the same time to present to you the friendly and cordial greeting that my honorable President sends you through me, with his fervent wishes for the personal happiness of Your Excellency, and the increased happiness and greatness of your people, with whom it has been his constant earnest desire to strengthen more and more the relations of good understanding and friendship to which so great a value is attached by our country.

The Government of Nicaragua in its relations with this country has had occasion to appreciate your disinterested policy of lofty purposes and grand ideals; and the main object of the mission with which I am entrusted is to carry even higher if possible the reciprocal trust and confidence that already exists. In order to attain these ends I confidently hope that I may depend on the high and benevolent cooperation of Your Excellency and your Government.

In addition to the wishes expressed in the name of my honorable President, permit me, most excellent sir, to formulate my own for Your Excellency's welfare and happiness, and for the more and more complete achievement of its noble ideals of improvement and progress by the admirable Nation over which you so worthily preside.

President Wilson responded as follows:

Mr. MINISTER:

It gives me pleasure to accord you formal recognition as envoy extraordinary and minister plenipotentiary of Nicaragua to the United States, by accepting from your hands the autographed letter by which His Excellency the President of Nicaragua accredits you in that high capacity. I also accept from you the letter of recall of your predecessor, whose residence at this capital is agreeably remembered.

The cordial sentiments to which you give utterance in behalf of the President of Nicaragua are in keeping with the friendship which had characterized his intercourse with this Government and which has gained for him the esteem and good will of the Government and people of the United States. I entertain no doubt that in the conduct of your mission you will be animated with a like desire to preserve and strengthen the ties which now bind the two countries in friendship and reciprocal good will.

The Government and people of the United States being no less solicitous to maintain the most amicable and cordial relations with the Government and people of



Photograph by Harris & Ewing.

DR. ALEJANDRO CÉSAR, MINISTER FROM NICARAGUA TO THE UNITED STATES.

Received by President Wilson on January 5, 1921.

Nicaragua, it will indeed give me great pleasure to cooperate with you in the furtherance of the laudable object which you state it will be the purpose of your mission to attain.

May I ask you to be so good as to convey to President Chamorro my thanks for his kindly greeting and good wishes, and to assure him of my desire that reciprocal trust and confidence may continue to serve as the solid foundation between the governments and peoples.

I thank you for your own good wishes, which are highly appreciated, and trust that you will find your sojourn at this capital most agreeable.

ACROSS THE PERUVIAN ANDES ON MULE BACK¹

By JOSEPH T. SINGEWALD, JR.

IN 1919 the Johns Hopkins University sent a scientific expedition to South America to make a geologic exploration of the Andes of Peru, Bolivia, and Chile. These investigations were rendered possible through the generosity of the family of the late George Huntington Williams, first professor of geology at that university, and the results are dedicated to his memory as a token of appreciation of his many important contributions to the science of geology. The expedition was in charge of Edward W. Berry, professor of paleontology, and Joseph T. Singewald, jr., professor of economic geology, at Johns Hopkins. The Andes were crossed and recrossed by the party at a number of places, sometimes by rail, at other times on mule back far from the beaten tracks of travelers. One of the most interesting of the latter journeys was a trip from Huancayo, on one of the headwaters of the Amazon River, past the famous mercury mines of Huancavelica, across the Continental Divide to the still loftier silver mines of Santa Ines, thence down the west slope of the range to the Pacific Ocean at Pisco—a trip of 250 miles on mule back over some of the world's most rugged topography and through a sequence of varied scenery.

Huancayo is reached by rail from Lima on the world's highest and most remarkable railroad, the Oroya Railroad, which crosses the glacier-capped crest of the western range through a tunnel over 15,800 feet above sea level. After descending to the valley of the Mantaro River at Oroya, the road sends a branch southward down the valley to Huancayo. Soon after the train reaches the valley darkness comes on, but as the traveler peers through the glass of the train window into the cold starlit night he is dimly aware of passing

¹ George Huntington Williams Memorial Publication No. 6.



Photographs by Joseph T. Singewald, jr.

VIEWS IN THE MANTARO VALLEY.

Upper: The great thoroughfare of the Mantaro Valley, south of Huancayo, lined with picturesque eucalyptus trees, agave hedges, and quaint cacti-topped adobe walls. Lower: Thrashing barley in the Mantaro Valley.



Photograph by Joseph T. Szigowald, Jr.

THE MANTARO VALLEY BELOW IZCUCHACA.

The cultivated fields of the Indian "chaeris" extend far up the mountain sides on slopes so steep as to appear almost inaccessible.

through a comparatively flat open country. The train makes frequent stops at stations swarming with apathetically curious Indians, with their ponchos tightly drawn about them to protect them from the chill night air. The weary traveler who has been under way since early in the morning, who in one day has been carried from sea level to nearly 3 miles above it, who has suddenly been transferred from the tropical temperature and vegetation of the Rimac Valley about Lima to a wintry clime, has bundled himself in his sweater and overcoat, and nestled against the window at his seat, continues to peer out at the motley throng, as apathetic and listless as the Indians staring at him, despite the strange fascination of the scene before him. Shortly before midnight Huancayo is reached; the passenger's baggage is seized by Indian boys, who lead the way through the now deserted streets paved with the characteristic small rounded cobbles of the Andean towns and sufficiently lighted to enable him to appreciate the novelty of the picture. The primitiveness of the little hotel before which the boys halt with his baggage is no bar to a sound night's sleep after the long day full of impressions and scenes that always remain vivid in his memory.

Huancayo lies at an elevation of less than 11,000 feet, and as the sun reaches the broad valley quite early, the chilliness of the night air is soon dispelled. The traveler eagerly sallies forth into the warm morning sun to acquaint himself in broad daylight with the wonderland dimly revealed to him the night before. He finds himself in a flat valley, highly cultivated, which is hemmed in on the east and on the west by mountain chains whose true ruggedness is softened by distance. The street in which he finds himself is teeming with life. Barefooted Indians, multiple-skirted women, and poncho-covered men are jog-trotting behind and alongside of herds of llamas or strings of donkeys, laden with the products of the surrounding country. The women almost invariably carry the newest arrival of their numerous progeny slung over their back in a blanket; the next older are perched on top of or in front of the load of the donkeys; but incredibly young tots are straggling along with the characteristic jog of their elders. Many who arrived earlier have already spread their wares in the street—small piles of chuña—the frozen potato, which is a staple Andean article of food; various vegetables, homespun woolens, gnarled sticks of kindling wood, etc. Others are doing a rushing cafeteria business serving repeatedly on the same dishes, from huge pots over an open charcoal fire, highly seasoned meat and greasy rice and potatoes, delicacies eagerly consumed by appreciative customers. He who does no more than remain in Huancayo over Sunday to see this market at its height and returns to Lima by rail is amply repaid and has much to tell about Andean life. **But he**



Photograph by Joseph T. Singewald, jr.

LLAMA TRAIN.

The llama train is the transportation system of the Andes. No grade is too steep, no trail too rocky, for this sure-footed animal, which maintains itself en route by grazing on almost barren mountain sides.



Photograph by Joseph T. Singewald, jr.

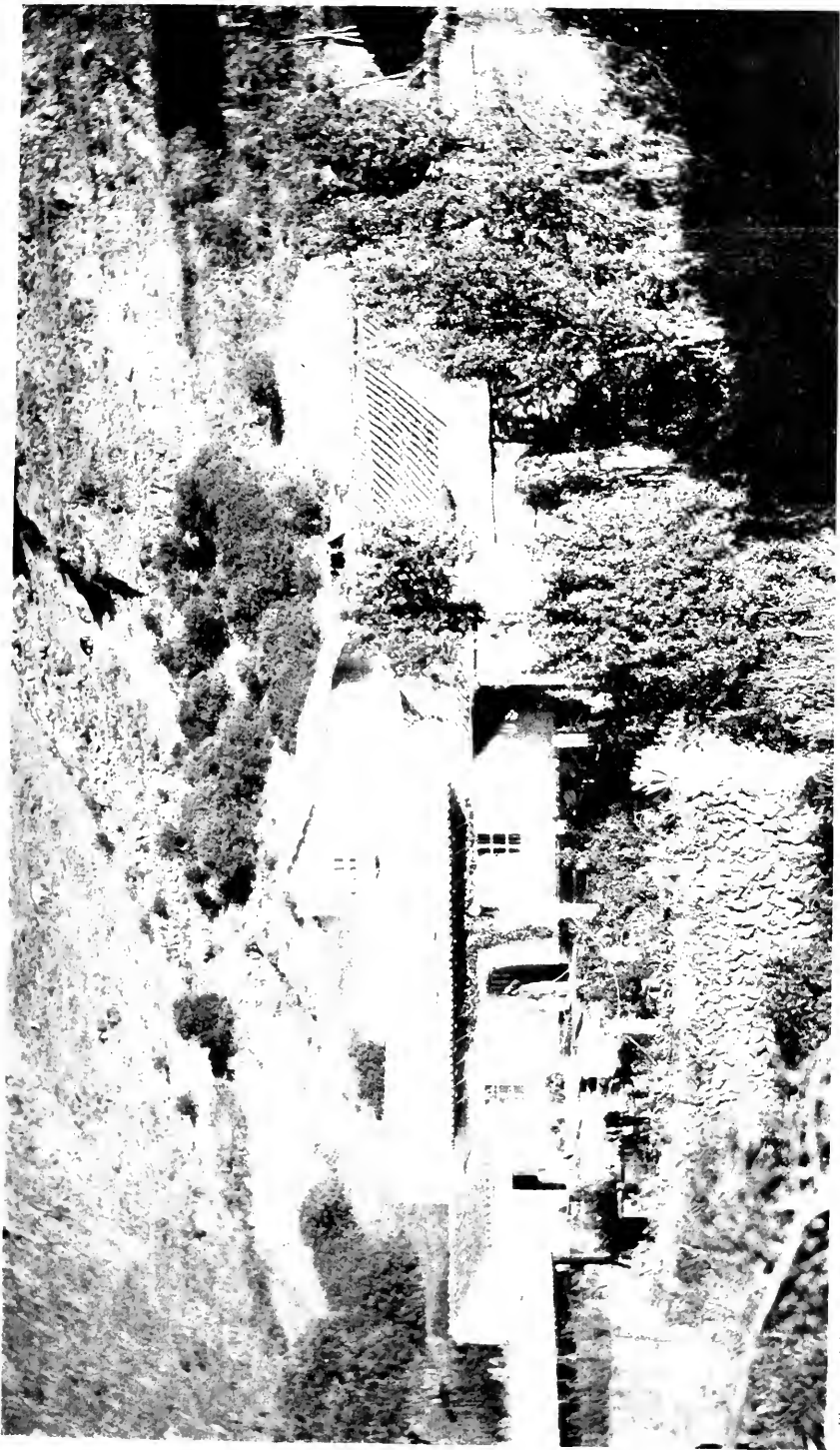
THE TOP OF THE ANDES NEAR HUANCAMELICA.

As long as one remains on the top, long stretches of comparatively level trail are traversed, but when finally one of the large rivers must be crossed, the descent and ascent usually consumes a half day of travel and exhausts the animals.

who can now push on beyond the railroad and trace his way back across the mountains to the sea on mule back, though he has many hardships to undergo, becomes acquainted with Andean landscapes and learns to know the peoples of the Andean heights in a way that is denied the traveler who restricts himself to the railroad. Fortunately our geological explorations called us to these less-frequented trails.

Through the courtesy of Mr. E. E. Fernandini, who has been more appreciative of the possibilities of the mineral wealth of Peru than any other Peruvian, and who ranks as the most progressive mine operator of his country, mules were awaiting us at the hotel for the first lap of our journey, even before we had completed a hasty acquaintance with the town. The trail, here broad and level enough to be called a highway, led southward down the main street of the town into the broad open country. Hugh agaves, or Spanish bayonet, with nodding flower stalks 20 to 30 feet tall, hedge most of the road. Ever and anon a small hamlet or a large hacienda is passed through and the road is then inclosed between adobe walls, along the top of which caeti have been planted, giving a distinct Mexican tinge to the landscape. It was Saturday and all morning we passed groups of Indians with loads on their backs, on their llamas and on their donkeys, eagerly pressing on toward Huancayo for the Sunday market. We passed field after field of newly harvested barley which was being trodden out by oxen and winnowed by tossing into the air as in the days of the Old Testament. All about was so strange and so fascinating that we almost felt it necessary to pinch ourselves to make sure we were not living in a fairyland.

Meanwhile the Mantaro River had flowed far to our right, had abandoned the broad valley, and entered the mountains. By noon we were in the foothills and stopped at the small Indian village of Marcavalle for dinner. The trail now grew narrower and rocky, the country rough and less densely populated; and as the afternoon wore on the intervals between the groups of Indians that we passed became longer. After many ups and downs the trail emerged again in the valley of the Mantaro River, late in the afternoon, but now high up on the brink of an immense canyon, with a tiny white band marking the turbulent river in its rocky bed 2,000 or 3,000 feet below. The trail followed the river, constantly seeking an opportunity to drop to a lower level, which at some places it accomplished by a series of zigzags, at others by a veritable rock stairway. Little apparent progress had been made toward convergence of river and trail when night closed in on us, and we had to trust ourselves entirely to the instincts and sure-footedness of our animals as they wearily plodded along the brink of the precipitous slope. But the sound of the rushing waters in the darkness beneath us gradually increased,



Photograph by Joseph T. Singewald, Jr.

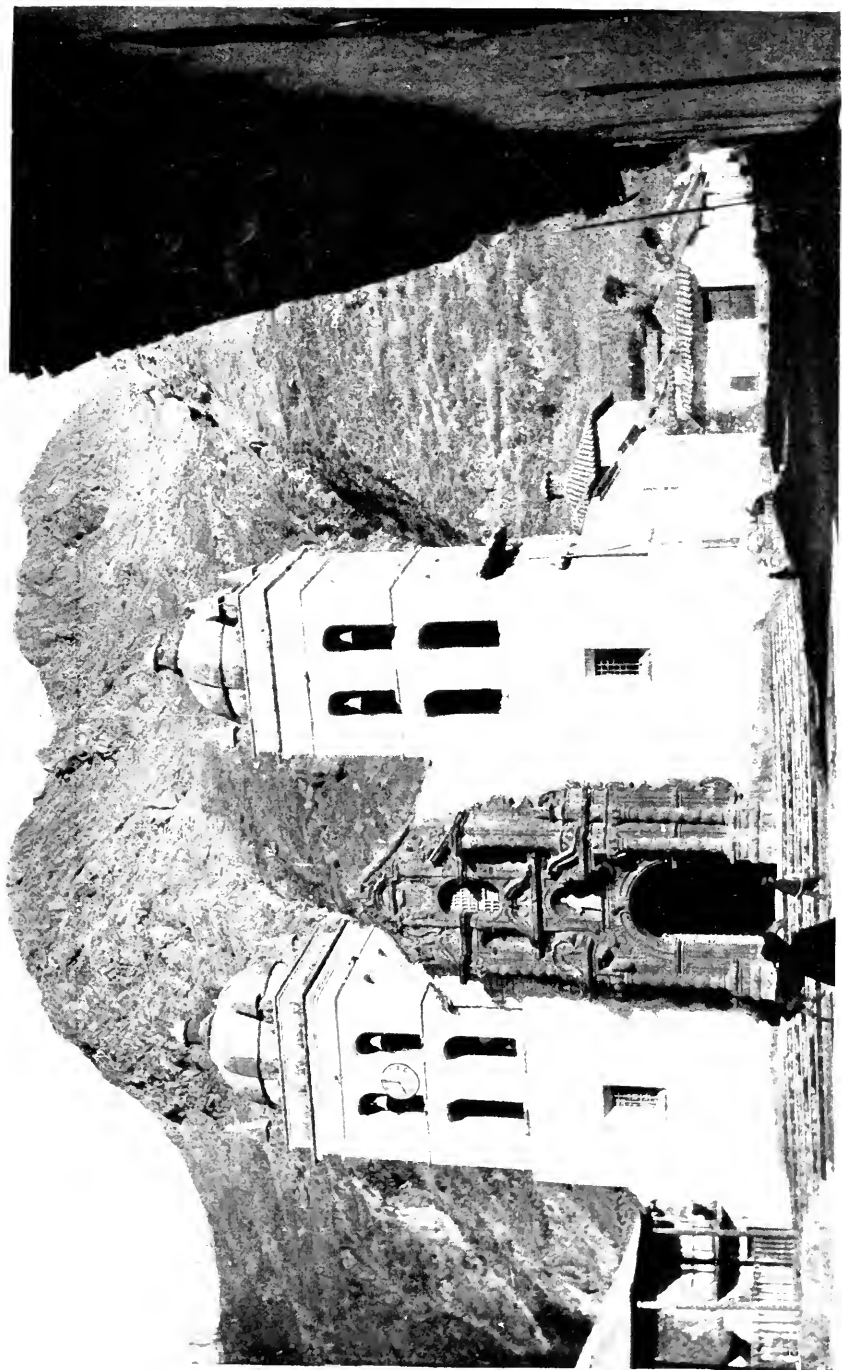
BELLA VISTA, THE ATTRACTIVE HOME OF MR. GASTELMENDI, MANAGER OF THE HUANCAYVELICA MINES.

Here the Williams party was most cordially received and accorded that hospitality so characteristic of Peruvians

and finally, as we descended one of the rocky staircases, we found ourselves at the portal of an old Spanish stone bridge ornamented with arches and shrines that spanned the river. On the other side was the town of Izcuchaca, through whose cobbled streets we clattered up to the village inn, upon which the stillness and darkness of night had descended some hours earlier. We awakened the inmates and put up here for the night.

Early the next morning we started on a long, tedious climb out of the Mantaro Valley. Whereas from Marcavalle to Izcuchaca the route lay across a great series of massive limestones that make up the mountain on the east side of the Mantaro Valley, on the west side are red sandstones and shales, with beds of gypsum that are intruded and overflowed by great masses of volcanic rocks. Soon, however, the limestones appeared again, and we saw no other rocks to the end of the day's journey. Shortly before noon we reached Huando, a town of considerable size on the divide between the Mantaro River and its tributary, the Huancavelica River. Our destination lay some distance higher up the latter river, so we continued to follow the trail upward as it threaded its way over the saddles and around the crests of that divide, until, in the middle of the afternoon, we reached the quebrada that was to lead us down to the town of Huancavelica. We had climbed to an elevation of 15,300 feet, and had now to descend nearly 3,000 feet to the river. A recurring tragedy of Andean travel is that one generally comes within sight of his destination long before sundown: but before he has accomplished the descent of the steep tortuous trail that leads down to it, night has come on and the traversing of the last rocky stretches, the very worst part of the day's ride, is again blindly intrusted by the rider to the weary, grunting beast carrying him.

Huancavelica was one of the notable mining districts of the Spanish colonial empire. Its mercury ores were known to the Incas and utilized by them as a pigment before the Spanish conquest. In 1570, the Santa Barbara mine, which was already productive, was sold to the Spanish Crown, and all subsequent mercury discoveries were declared crown property. The recorded output of mercury during the colonial period amounted to 550,000 tons. In those days the Santa Barbara mine was heralded as the "greatest wonder of the world"; and certainly its productivity was most opportune as a source of mercury for the recovery of the silver from the rich silver ores that were being so extensively exploited in other parts of the Spanish domain at that period. The district has been the scene of little activity since the independence of Peru, but extensive ruins still give evidence of its splendid past. Crumbling adobe walls beyond the limits of the present occupied parts of the town show that this backward town of several thousand Indians



Photograph by Joseph T. Singewald, Jr.

THE MATRIZ CATHEDRAL, IN THE PLAZA DE INDEPENDENCIA, JUANCABELICA, WITH THE GRAND PARALLON IN THE BACKGROUND.

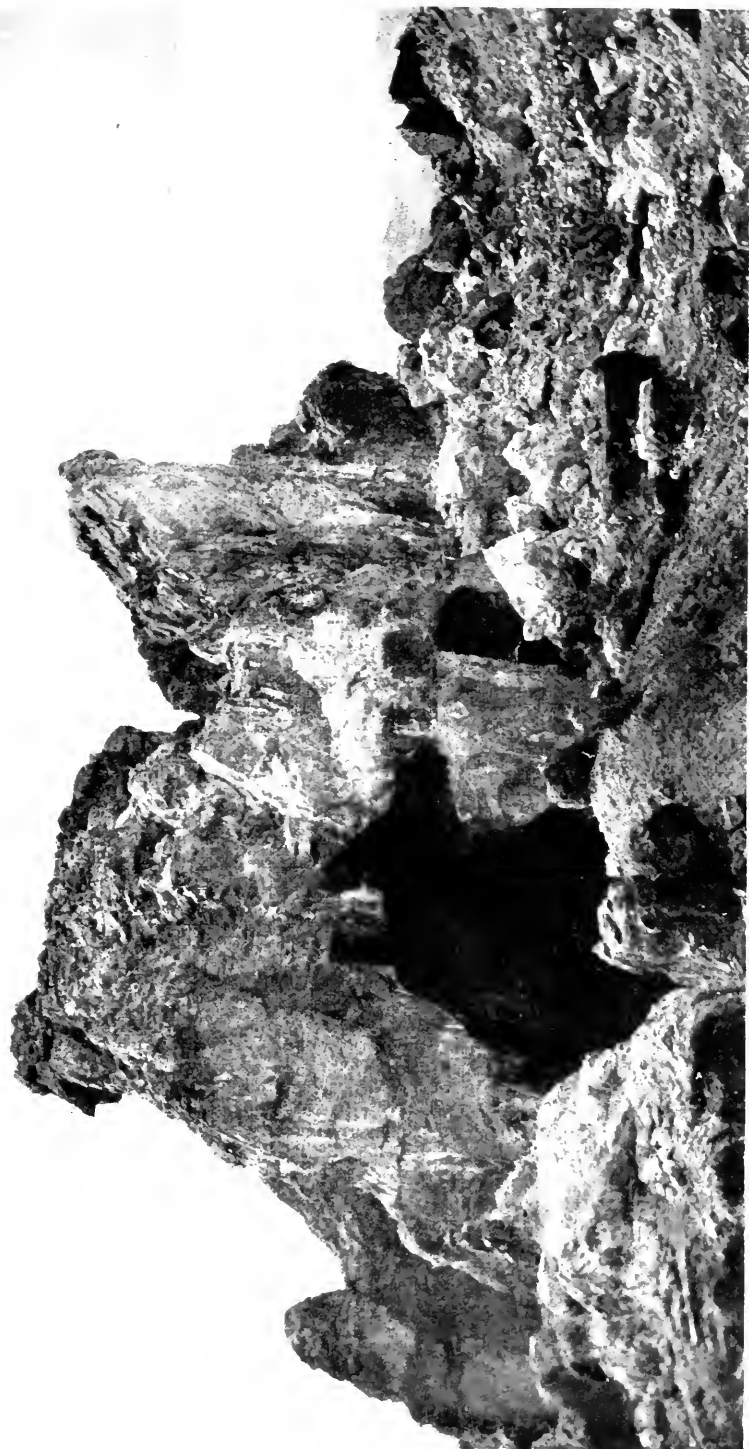
is but a fraction of its former self. The eight cathedrals of the colonial days, with worn and tarnished ornamentation, still eke out an existence despite the diminished and impoverished state of the population. High up on the mountain, about the old mines, other ruins tell the tale of busy mining settlements long since abandoned and deserted.

Huancavelica is now on the eve of a new era of prosperity. Mr. Fernandini has acquired most of the district, has cleaned out some of the old tunnels, and is driving a new crosscut tunnel nearly a mile long to cut the ores at a depth of over 700 feet below the old surface workings. He has also erected two small trial furnaces to determine the best recovery methods in the treatment of the ores. Power for the new operations is furnished by a recently constructed hydroelectric plant.

The prevailing rock of the Huancavelica district, as of the country round about, is Cretaceous limestone, in which are intercalated zones of sandstone and shale. Outcropping over considerable areas are coarse limestone conglomerates. The sediments are intruded by large masses of basalt and porphyrite, and along the mineralized zone are small andesite intrusions. The mineralized belt extends discontinuously from Chunamachay in a southeasterly direction through Huancavelica to beyond San Antonio, a distance of about 40 miles, and has a width of 1 to 2 miles. It follows a belt of sandstones in the limestone, and the ore is usually an impregnation of the sandstones. When they are compact and of unfavorable texture, and when the limestone has been shattered, the ore enters the latter rock. Some ore deposition has also taken place in the igneous rocks.

The mercury production has come almost entirely from the mines high on the mountain on the south side of the Huancavelica River, directly above the town. The limestone strata here stand on edge and include a heavy bed of sandstone which has weathered out in relief and is called the Grand Farallon. At the south end of it, is a series of great open cuts overlying the caved area of the old underground and surface workings, the first of which called the Brocal is a tangle of huge blocks and great pinnacles of sandstone. These pits mark the location of the famous Santa Barbara ore body, and the purpose of the new tunnel being driven by Mr. Fernandini is to get underneath that body of ore.

The bright red cinnabar, mercury sulphide, impregnates the porous, clean sandstone either uniformly or along certain planes and fractures. In places the mercury mineral occurs alone, but usually it is associated with a black or dark bituminous substance, yellow sulphides of iron, fine-grained silvery lead sulphide, and a little red arsenic sulphide. Just how rich in mercury the famous ores of these mines were is not recorded.



Photograph by Joseph T. Stingswald, Jr.

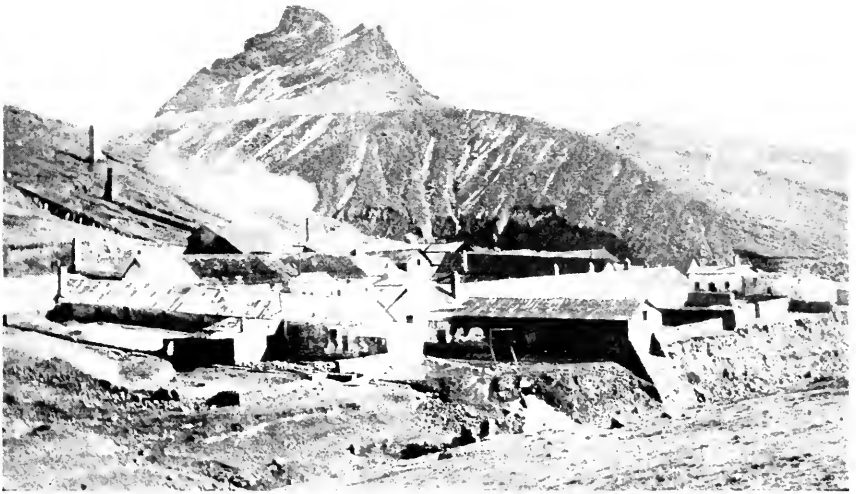
THE BROCA, SOUTH END OF THE GRAND FARALLON.

The Broca, a great open pit at the south end of the Grand Farallon, represents old mine openings and the debris of former mining operations. The elevation is 15,000 feet, or 2,500 feet above the town of Huanayaclica.

After spending a number of days at Huancavelica studying the geology of those interesting ore deposits, we again mounted mules and started across the Continental Divide. For three hours we ascended the Huancavelica River, with mountains of limestone on each side of us. Then as we turned up a side valley the limestones were left behind, and for the rest of the day our route lay across volcanic rocks. Great masses of porphyritic rocks and large areas of tuffaceous material evidenced the volcanic activity that contributed so substantially to the upbuilding of this maritime cordillera during late Tertiary time. Our trail led us up and up, but equally rapid did the peaks that surrounded us on all sides increase in elevation. The country became wilder and less inhabited, the air bleaker and colder, snow squalls played about the near-by mountain peaks, and as the clouds broke away momentarily great fields of ice and snow were disclosed to view. About 4 o'clock in the afternoon the guide signaled us to stop, had us button up well our coats, and wrap ourselves in an extra poncho before we proceeded farther. In a few minutes more we had reached the crest of a small gap in the Continental Divide at an elevation of 16,500 feet. Blinding sleet greeted us, driven with terrific force by arctic blasts that made us cringe low against our mules. With the greatest difficulty the animals were compelled to face the storm and continue on their way across the pass and start the descent to the Pacific. A short distance below the pass the fury of the storm abated, and we could begin to discern objects about us. The aspect of our surroundings had completely changed. We were no longer in a topography dominated by a well-defined drainage system, but in a hopeless jumble of lakes, moss-covered morasses, and smoothed rock surfaces, with glacier-covered peaks around much of our horizon. Long after dark, cold and hungry, we reached Santa Ines, where Prof. Noriega, the manager, and his associates, who had been advised of our coming, were awaiting us with a hearty welcome and a substantial hot supper.

Santa Ines is the site of the reduction works for the silver ores of the Quespesisa mines, 10 kilometers distant. It is located on the shores of Lake Chocloccocho, at an elevation of 15,200 feet, and the mines are in the Cerro Quespesisa, overlooking Lake Orcoccocho, at an elevation up to 16,500 feet. This has been one of the most productive silver districts of Peru. Even during the last 50 years it has yielded 6,000,000 ounces of silver with crude metallurgical processes that lost over 25 per cent of the silver content of the ores. The average grade of the ore now worked is 50 ounces of silver per ton. The ore occurs in veins which traverse the igneous rocks.

The Santa Ines district exemplifies admirably the difficulties that are met and overcome and the hardships that must be endured in man's struggle to wrest the metals from Nature's grasp in these



Photograph by Joseph T. Singewald, jr.

THE REDUCTION WORKS AT SANTA INES.

These works are over 15,000 feet above sea level with the mines more than 1,000 feet higher in a group of mountains back of the high peak.



Photograph by Joseph T. Singewald, jr.

THE BOTIJA PUNCU MINE.

Second in importance to the Santa Barbara with its extensive ruins. The ore occurred in the steeply dipping limestones. On the right is the Grand Farallon and in the distance the Huancavelica Valley.

remote and high places. Santa Ines is separated from Pisco, the port from which all its supplies must originate, by 120 miles of trail of the character that will presently be described, and by a difference in elevation of over 15,000 feet. Its surroundings are bleak, desolate, bare, and cold. It is dependent for fuel on taquia, llama dung, of which 1,500 tons are burned annually. Not to mention the time required to secure supplies, nothing larger or heavier than can be packed on the back of a mule can be transported there. Even at midday, with bright sunshine outdoors, the temperature of the living quarters does not rise above 45° F. Yet men go to such places, stay for years, return to them, and seem to live as happy and contented a life as those who have at their command all the comforts and conveniences of modern civilization. The reality and the vividness of the constant struggle against Nature's austerest moods appeals to the imagination, develops resistance, and imparts a satisfying feeling of achievement unknown to and not experienced by the man who has never "bucked" these moods of Nature. He never gets beyond the point of not understanding why people should choose to live in such places.

The last stretch of our journey was the four and a half day descent to the sea, amid constantly changing scenery and life that made us forgetful of the physical weariness and the tediousness of the slow pace at which we were advancing. The first day we kept well up on the ridges and traversed inhospitable rock wastes without human habitations but abundantly inhabited by herds of dainty, graceful vicuna, with their beautiful light-yellow, soft fur; the tiny vizeacha that looks like a cross between a rabbit, a squirrel, and a rat, which makes its home in the innumerable crevices of the rocks and which likewise is sought for its valuable yellow and gray mottled fur, and the giant condor that soared over our heads and alighted on rocky crags near us. Only as we were occasionally forced to cross a minor valley to avoid too long a detour, did we encounter tufts of wild grasses and scattered low, gnarly trees. At dusk we descended into the Chacapampa Valley at a point where the elevation was low enough to support the growth of grass in the river bottoms and put up for the night at Cuchiancha, one of the chacras, or small hay ranches.

The next day we continued down the Chacapampa Valley to the town of Huaytará which lies at the junction of it with an important tributary, the Viseacha. This brought us beneath the volcanic rocks that form the higher elevations of the range, and the lower slopes of the valley were made up of a highly inclined series of dark shales and sandstones. The trail was high up on the south side of the valley, so that excellent opportunity was afforded to study the configuration of the opposite slopes. The hard sandstones of the sedimentary series displayed magnificent bare dip slopes and the scars



Photograph by Joseph T. Singewald, jr.

QUESPESISA CHILDREN.

Reared over 16,000 feet above the sea, under most rigorous conditions of existence these Quespesisa children are a healthy, sturdy looking lot.



Photograph by Joseph T. Singewald, jr.

A TYPICAL HOUSE OF THE ANDEAN TOWNS.

Universal features are the thick adobe walls without windows and a solid wooden door, dirt floors, and tile roof.

of landslides were prominent topographic features. As we rode along we saw what appeared to be a large cloud of smoke suddenly develop opposite us. It was remarkably persistent and only slowly dissipated sufficiently to disclose the scar of a fresh landslide.

Huaytará had a genial aspect to us. Its elevation is 9,500 feet and its climate consequently comparatively mild. Trees and flowers are abundant wherever water is brought to the soil. The trail leading into the town is lined with large bushes of fragrant heliotrope. The notable feature of the town is its church, which represents three stages of civilization. The lower walls are the remains of an Inca structure and are made of perfectly laid and fashioned massive stone blocks; the upper walls are of adobe; and the roof is of corrugated iron. The simple inhabitants of the town are not bothered by any sense of architectural incongruity, but have merely in good faith utilized the best of their limited resources in the construction of their place of worship. Two days more of riding down the Chacapampa valley brought us out of the mountains to the eastern edge of the flat coastal desert. From Huaytará on the climate became more tropical and the air more parched. Even the cacti on the hill slopes and the tufts of wild grass became less abundant and finally disappeared completely. The increasing heat and dust of the trail was as uncomfortable as the cold of a few days before had been. The shrieks of noisy parrots echoed and reechoed against the steep walls of the river gorge. For long distances the river cut its way through thick accumulations of heavy bowlder-filled débris, as barren of vegetation as the mountain slopes themselves. At intervals, the valley broadened a little and a restricted flood plane had formed that under the stimulation of irrigation brought forth a luxurious growth of tropical vegetation. Tropical fruits were soon supplemented by cotton fields. Lower down the river, vineyards competed with cotton fields for the limited areas of arable land. On the second day the valley widened considerably and the mountain walls that had shut us in lowered rapidly so that by evening the Andes were behind us.

The following forenoon the journey to the coast was completed by crossing the flat coastal plain, in part along the irrigated valley and in part across stretches of sandy waste. Needless to say we thoroughly enjoyed the opportunity of "cleaning up" and sitting on the porch of a hotel built out over the sea while waiting for a steamer to carry us farther on our way down the coast.



PAN AMERICAN RELATIONS

ON December 30, 1920, a joint session of the American Political Science Association and the American Historical Association (the two associations at that time holding their annual meetings in Washington) was held in the Hall of the Americas, Pan American Building, at which papers of interest on Pan American Relations were read. Two of these papers are given below.

Dr. Manoel de Oliveira Lima was for a long period in the diplomatic service of Brazil. He was successively Attaché to the embassies in Berlin, in Washington, and in London, and has been minister to Japan, Sweden, Belgium, and Venezuela. He is a member of a number of historical and scientific societies, and was decorated by the King of Portugal for literary work in the Portuguese language. Dr. Oliveira Lima was the first exchange professor at Harvard University from South America.

Dr. Julius Klein is the assistant professor of Latin American affairs, Harvard University, and was formerly United States commercial attaché at Buenos Aires.

PAN AMERICANISM AND THE LEAGUE OF NATIONS.

BY OLIVEIRA LIMA.

This Hall of Americas, where we meet to-day in such a cordial gathering, speaks for itself. It proves that at least one league of nations exists on earth and that it has been successful since it is a reality. Why? Because it was founded on the theory of equality: it has tried to act according to justice, and it has for its aims peace and prosperity for all the countries of the New World. We must only bear in mind that practice does not always correspond to theory and that human justice is far from perfection. Our Pan American league may, however, stand as a model.

The great trouble with the larger and more recent League of Nations (may I say the late League of Nations?), which was said to be universal, but in fact was restricted to a managing and patronizing board, was that it resembled too much an old-fashioned school, with a severe set of masters, frightened pupils, and even a whip lying on the table for the corrections deemed indispensable. Politically it was a council: it was never a league. Yet precedence pointed to a different way.

In 1814-15 France was beaten and invaded. Napoleon had been for 15 years at least the ogre of Europe—a new scourge of God. The

vanquished sat, however, at the same table with the victors, and Talleyrand, who always found the proper words for the occasion, certainly because he changed his words according to the occasion, could boldly say to the Czar of Russia that right ought to precede national conveniences. It is true that the Czar replied that right was nothing more than the conveniences of Europe. He was a wise man and he acted according to his wise saying; but the Holy Alliance did not try to deceive the world as it proclaimed itself a trust organized by kings against peoples. On the contrary, now, or rather lately, it was not said that democracy and oligarchy had practically the same meaning. Democracy was exalted as the basis and the *raison d'être* of a league which really established military success as the best qualification for admission to its body.

In 1855 Russia had been detained on her way to Constantinople—this same Byzantium which is described as a den of vice worse than in its worst times of corruption, now that the Turks ceased effectively to rule on the Bosphorus. The Congress of Paris met under Louis Napoleon's sleepy eyes and enigmatic smile. Russia was not absent from the meeting where Turkey obtained a new lease of life and Cavour laid the foundations of the kingdom of Italy.

In 1878 Turkey had another collapse, which was, as always, considered to be the last; but Bismarck acted as a physician, more perhaps as a surgeon, and she recovered once more. Both herself and Russia were side by side playing the game of politics on the green cloth of the German chancery.

At Versailles the recollections of the *Roi Soleil* tended so much toward absolutism that under this powerful suggestion there was a bench of judges with some criminals at the bar. That was what spoiled a plan which had been the offspring of generous intentions. The world resulted more divided than ever, and instead of civilization being restored by a concourse of good will, it had to face disaggregation and a decay fostered by so much hatred.

We never thought on this side of the Atlantic of establishing leagues so exclusive that they barred out some nations in favor, not even of the majority, but of a few initiated. Bolivar dreamed of a league of nations—we call it a dream, because the hour had not yet struck for the realization of such a lofty ideal—but when he attempted it, he did not relegate even Haiti to a black place.

We have had since the Congress of Panama other Pan American meetings, and we started 30 years ago, under the auspices of James G. Blaine, who used to see far ahead, a Bureau of American Republics, which has been irreverently called your Department of Colonies, but which became this Pan American Union, precisely because you did not endeavor to create dependencies. A union can not imply exceptions, or it would be necessary to look for another word for it.

It is true that a certain big stick made its appearance, but a big stick is not exactly the negation of friendly feelings. It may be fraternal; it is not necessarily tyrannical. Blows do not hurt less for that, but we must always look to intentions, as they may prove good, and in spite of the saying humanity is guided by intentions more than by anything else.

Our common tradition is a tradition of law, although the particular traditions of each nationality may have been altered by human violence: America was conquered from her native races, and the European invaders disputed parts of it among themselves: but generally right prevailed over might, and the settlers obeyed when fixing their boundaries the distribution of lands delineated by European diplomacy. Even before the discoveries, carried to their utmost limit, had disclosed what an immense world this unknown world was, America had been apportioned according to a famous papal bull. So public conventions ruled her evolution, and when the time for independence came the principle of *uti posse detis*, fixing for the new countries the same boundaries of the old colonies, avoided many a bloody struggle between those Spanish possessions which, unlike Brazil, had disrupted their former union and did not keep the imperial unity.

This is a case of equality before the public law, which is more difficult to ascertain than equality before the private law: The Monroe doctrine did not contradict such a tradition and change it into oppression, because the Monroe doctrine was originated in this way: The United States understood that the new countries of America were under the pressure and the menace of European intervention, and as the strongest power of the continent they took the leadership and, at England's advice, as she also had matter of complaint and wanted to curtail the power of the Holy Alliance, formulated the famous doctrine of defense for all and national safety for every one of the newly emancipated nations.

The United States acted toward them as a kind of guardian. At the end of a century of responsible life some of those countries showed that they did not need tutorship any more, one or two even plainly stating so, although cherishing the grateful remembrance of past services. A few, however, had to become regular wards under the circumstances, which may change as the condition of the world is not a perpetual stagnant one. We may consequently infer that the Monroe doctrine was in its beginnings a policy of protection, and that it may nowadays have been sometimes a policy of control; but the truth is that it pretends and wishes to be a policy of cooperation.

For the United States the best policy to follow is surely a policy of solidarity. Their place will always be the first, but it is better to acquire by persuasion what might be denied to imposition. The

Monroe doctrine is to be a common continental doctrine. If not, Latin America will remain beyond the pale of a responsible destiny within any league of nations. More than a regional understanding, it must be an American doctrine in the broad sense of the word.

The war—I mean the Great War—strengthened Pan Americanism, in spite of the neutrality preserved by some of the nations, not so much because the freedom of the New World or the liberties in the New World were at a danger through the extension of European hegemonies, but simply because it helped to fortify the conception of right, and America always had for right in its concrete and also in its abstract modality an almost superstitious respect which we would in vain look for in Europe in the same degree. I do not know if the term superstitious can be justly applied to such a noble feeling. I only wanted to emphasize the nature of a respect which has more of a worship.

Pan Americanism ceased entirely to be a catchword or a diplomatic trick to become much more than before the point of convergence of a number of aspirations, the framework of a regular association, the backbone of a solid organization. Above Pan Americanism there is only panhumanism, to which it may lead some day, bestowing upon all mankind the principles of law which are now the privilege of a part of it and which we Americans theoretically and most times practically substitute for conquest and force.

Force is even thought incompatible with Pan Americanism, and the United States will have to abstain from it if they are to govern morally the world. Material interests act as a bad counsellor: good advices come from intelligence, from the centers of education, the universities specially, where Pan Americanism has received its scholarly shape, and which we may say have inspired its soul. Even the apostles of idealism may sometimes err, despite conventionalities, and have spells of disrespect for forms, just as the followers of what was called *realpolitik* and contributed so much to disparage an aspect of German thought before public opinion.

The world shifts decidedly to a period of greater cosmopolitanism, notwithstanding the revival of nationalism, but such a cosmopolitanism must rest upon mutual duties and rights. If the leadership of a world so new is to be the lot of the United States, it is owing to their identification with freedom and peace, not to any device of annexation of land and suppression of liberties.

Rome can not live twice with her spirit at a time juridical and military. A new Rome will have to choose between the two modalities, as the people do not content themselves any more with being fed and amused—*panem et circenses*. People begin everywhere to be conscious of what is due to labor, and huge immoral profits are henceforth to be abolished in industry as well as in politics. Pro-

consuls like Verres are no more to be tolerated than nabobs sprung from the war at the cost of their brother's blood. I once wrote that war would cease to be courted if it became a poor heiress.

If it was not so it would be to despair of the justice of history, which, although it may be infallible, is one of the beliefs that support mankind in its hours of agony. American people as a whole are too honest to think otherwise, and the last league of nations that was attempted was only a victim of the egoism grafted in it through the statecraft of international politicians causing the loss of its original altruism.

The form of a league of nations may be political, but its substance must be juridical. This is why its most important and efficient feature ought to be the organization of the supreme court to deal with interpretations, differences, and controversies which can all be reduced to judicial terms. I myself would like to see within the Pan American Union a court of that kind to which American disputes could be submitted. Of course it would have to lie, like the union itself, on the basis of equality—a basis which permitted this result of the first Pan American conference, created specially for commercial and economical purposes, to become a moral power and to stride with giant's steps to the goal of an inalterable concord.

The world has heard of other leagues of nations before this last attempt, and Sully describes in his *Memoirs* the one planned by his sovereign, Henri IV. It was also to be exclusive, confined to Christian nations, but the end of wars was really to be attained by the action of an international court of justice. *Le bon roi Henry* belonged, however, to the kind of pacifists who want first to take every advantage of the old system and to have through war things their own way before ceasing to fight; he wished to begin by crushing Austria.

Shortly before the Great War, in May, 1914, a French pacifist—he called himself so—expressed to me in Paris quite similar views. We must, he told me to my great dismay, have a general scramble and then work for peace. The adepts of the balance of power do not speak a different language. In America fortunately, things are not the same and we have a better conception of that so-called balance of power. It must not be a seesaw; it has to be a carousal.

In fact we never built up systems of alliances; or at least those which have occurred in the course of events have been so occasional and ephemeral that they can not be called a system. The United States since their very beginning as continental power refused to enter into alliances, even with the other nations of this hemisphere. Such American alliances were equally considered entangling.

Brazil, when menaced by Portugal in 1823, immediately after her independence was proclaimed, proposed in Washington a pact which

was politely declined. The only pact to which they would subscribe, the only pacts which all of us have subscribed to, are pacts to improve inter-American relations, and they had consequently to rest upon equity.

Our continent is, however, acquainted with more than one initiative of a league of nations. Bolivar was not the only American to express this ideal in 1815, in his famous letter program of Kingston, and to promote its realization in 1826 at the Congress of Panama. Portugal, which was the first European power to acknowledge the new Spanish-American nationalities, showed in 1822, shortly before the separation of Brazil, a more acute vision of the balance between the Old and the New World than Canning seemed to have.

That happened when one of her statesmen proposed to build up what he called the "Confederation of the independent nations." It was but a league, and Silvestre Pinheiro Ferreira, who suggested it, was a remarkable political thinker, whom the constitutional uprising of 1821 in Brazil brought to the front as a member of the royal cabinet, as well as one of the philosophers and writers on public law quoted in his time as authorities in Europe. His confederation, which he thought of starting with the United Kingdom of Portugal and Brazil, Spain, Greece, and the American countries, was destined in his conception to work as the *contre partie* of the Holy Alliance. The latter tended to protect legitimacy and autocracy, the first to protect democracy or at least constitutional government. They were in truth antagonistic. At the head of the second Silvestre Pinheiro Ferreira wanted to place the United States of North America, as he called them, declaring himself afraid, in the diplomatic instructions he wrote for his agents and for foreign governments, of the Holy Alliance's aim. In his words this blessed league would seek to destroy liberty throughout all the civilized world, and specially in the the New World, using for that purpose Russia's ambition and England's sea power.

The *casus foederis* in every case of foreign aggression was to be decided by a majority of votes, and also the form of help to be extended to the victim, in order to offer the common resistance. The project comprised equal treatment for citizens of each of the confederate countries in the others of the league, equality of taxes on navigation, freedom of commerce, banking facilities, reciprocal validity of the awards of prize courts, etc.

Countries of Iberian descent in the New World had then a standing which their political unrest greatly impaired afterwards. Latin-America has recovered it and has gained much prestige in the last years, not through feats of arms but through the action of her culture. So it was that Pan Americanism has deserved to be said, "a dynamic force" in the world of to-day. Twenty years ago, when I was

secretary of the Brazilian legation in Washington, no few of the European diplomats used to look upon their South American colleagues as creatures of a different kind, although there were among these, men of refined education and high learning like Salvador de Mendonça, Don Matias Romero, Garcia Merou, Morla Vicina, and others, who were positively superior to most of the Old World representatives.

Through the efficiency of such men (I am proud to have had Salvador de Mendonça as my chief and professor of diplomacy, the fault being all mine if I was a bad pupil) a Pan American conscience has been growing and teaching that the permanent development of the New World requires absolute union among its countries. They may differ in race, in language, in religion, in traditions, even in form of government, as when Brazil was an empire, a peaceful and well-meaning empire. There is always a community of purposes, since there is an identity of ground, and that the tie binding them together is public law. It is the unity of juridical principles which has raised above that diversity of conditions, political or social; which has gathered us, which has called and kept us attentive to the attainment of a common moral law, and which will bind us forever. If there is a destiny which can not be denied or avoided, this is the one; it is as manifest as it will be glorious.

THE MONROE DOCTRINE AS A REGIONAL UNDERSTANDING.

BY JULIUS KLEIN.

The purpose of the present paper is not to venture upon one more discussion of that much-discussed question as to the relationship between the Monroe doctrine and the League of Nations. It is proposed rather to examine briefly certain new developments, largely economic, which have taken place in Latin America since 1914 and especially since 1918, which have a direct bearing upon the diplomatic and political relations between that region and the United States. If we assume that the interests of all of the American nations still demand the maintenance of the Monrovia principle (the exclusion of political aggrandizement by non-American nations), the question arises, Has not the worldwide political and economic upheaval of the past few years exerted some influence upon the general situation in Latin America, affecting thereby the effective enforcement of the doctrine? Among the amazing transformations wrought by the war upon the southern Republics, have there been any which bear upon what might be called the interregional problems—the political and economic relations of the American nations, both north and south? Can a unilateral, defensive declaration,

such as the Monroe doctrine—not even a policy, but rather a changing point of view or position varying from passive disinterestedness or even negligence and nonenforcement, on some occasions to outspoken threats of war on others—can such a concept be made the basis of an international engagement or a regional understanding?

One of the most significant effects of the war upon the southern Republics was the change which it wrought in their relations with one another. I do not refer to the formation of such political or diplomatic associations as the so-called A. B. C. arbitration league of May, 1915, which has not yet been fully ratified. More significant and fundamental, though far less spectacular than this, are the prosaic commercial, economic, and social bonds which have grown up among them during the enforced cessation of many of their contacts with the outside world from 1914 to 1919. For the first time in their history they were compelled to become acquainted with one another, and the effects of this are strikingly apparent to any observer who has been in a position to compare prewar impressions with those of to-day. The colonial history of this area was marked by the most carefully devised administrative dependence directly upon the Castillian crown. The nineteenth century was a period of turbulent political and economic internal readjustments with considerable assistance on the economic side from Europe, but with practically no inter-Latin American contacts save at the points of bayonets.

Then came 1914, and just as the preoccupations of Europe in its previous great cataclysm, the Napoleonic war, enabled Latin America to achieve her political independence, so has the recent upheaval in the Old World given the southern Republics their first real appreciation of their own capacity for self-development and interregional cooperation along economic and social lines.

It would be absurd, of course, to suggest that the years 1914–1918 had delivered Latin America from any further economic dependence upon Europe; but in view of certain significant facts, to be reviewed in a moment, it would be equally ridiculous to assume that Latin America will continue to look to Europe, or even to the United States, for the fulfillment of all of her needs for manufactured commodities, and even for capital and fuel. The amount of evidence on this point is ample, and instead of falling off after 1918, it has steadily increased. Let us take, for example, a few isolated instances in the financial field. Argentine citizens recently loaned 1,500,000,000 lire to the Italian Government; the Argentine Government has advanced £40,000,000 to the Allies, and is now said to be contemplating negotiations of a similar nature with Austria and Germany. Chilean financiers have, within the past two years, assumed a prominent position in the Bolivian tin industry, and have lately

been active in planning the exploitation of petroleum and other mineral products in Argentina. Since 1918 detailed plans or arrangements have been made for the construction in Latin America of at least five international railways and six or more international cable and telegraph lines. It is unnecessary to comment upon these very material and effective expressions of the new desire for more inter-regional bonds; nor need we be reminded of the profound effect, both economic and political, that such ties will have. The noteworthy point is the fact that the majority of these enterprises are being undertaken with local capital.

Commercial changes of the same sort are noticeable on every hand, due especially to the extraordinary diversification of industries and production in the past six years. Since 1914 the trade between Argentina and Brazil has grown 500 per cent, and all the latest statistics point to even further expansion. Mexican commerce with the more important South American countries, including such items as foodstuffs, oil, fibers, and even newsprint paper, has been more than quadrupled during the war, and the most rapid growth has come in the past two years. During 1919 and 1920 at least five inter-Latin American congresses were held, not with the object of exchanging those beautiful expressions of fraternal affection which too frequently befog the atmosphere of such assemblages. Quite the contrary; their subject matter in each case was prosaic and unpicturesque, but at the same time definite and constructive—dairying and pastoral agriculture, police regulations, immigration, architecture, and physical education.

These are but a few random items, but they could be duplicated many times over, even in the case of the smaller Republics of the Tropics. They point unmistakably to the beginnings of a new adjustment of the Latin American international situation. The bearing of such significant economic developments upon political and diplomatic affairs is too obvious to require explanation. Latin America may still be dependent upon Europe for immigrants, capital, ingenuity, and manufactures, but that dependence, especially with reference to the last three items, is decreasing. The opportunities and necessities for European incursions and exploitations in Latin America are on the wane, and the native means available within the southern Republics for their individual or cooperative defense against any such intrusions which might be unwelcome are slowly but surely growing.

The effect of this regional rapprochement upon the Monroe doctrine must therefore be inevitable. In fact, the prophecy made in June, 1918, by Prof. G. G. Wilson seems to be nearing fulfillment. The doctrine is evidently passing to a wider field of influence. Whereas the economic readjustment in the south is altering pro-

foundly the relations between Latin America and Europe, the change has been far less dangerous to our economic interests, primarily because those interests had only come to the fore during the years just before the war and their relative youth made them far more plastic, more adjustable to the new situation than were their older and now seriously embarrassed European competitors. The results of this situation are well known; for the purposes of the present discussion the great increase in trade values is less significant than the appearance of real, permanent bonds between the two regions—material ties which make for better understanding and a lasting community of interests. It is well, in this connection, to recall that before 1914 there was not one American branch bank in Latin America, while to-day there are over a hundred; that there are nearly a dozen American chambers of commerce in the southern Republics, the oldest of them having been founded about two years ago; that important new American cable connections and the valuable services of the two great American news-gathering associations have been greatly extended in that field; and that American ships are now sufficiently numerous in southern waters to carry nearly 50 per cent of our trade there, which is five times the proportion carried in 1914.

The Inter-American High Commission has since 1915 been unostentatiously but surely working out a definite and effective series of bonds in the shape of uniform commercial law and practice—a constructive program of the highest value.

This marked increase in inter-American contacts suggests at once the possibility and even the probability of a restatement of the Monroe doctrine along more friendly lines. President Wilson's efforts along this line are well known; we may recall especially the proposal to the visiting Mexican journalists on June 7, 1918, that "all American Republics, including the United States, should give guaranties for the political independence and territorial integrity of all"—a phrase which, according to the President's subsequent explanation, was the origin of the idea later expressed in Article X of the League of Nations covenant. In view, however, of the disputed boundaries in many parts of Latin America, it is difficult to see how such a firm, unconditional territorial guaranty can be established; but the desirability of such an inter-American guaranty as applied to the sovereign independence of the various republican governments can not be questioned. Our recent experiences in Central America and the West Indies show plainly the necessity of reiterated, formal assurances on our part that we feel bound by such a guaranty.

President Brum, of Uruguay, outlined in April, 1920, a plan of an American league which "would consider jointly all American problems, would place all American Republics on an equal footing, and

would defend each one of them against menaces from Europe or from any American Government." This proposal for "American solidarity" has been greeted with skeptical criticisms in various Latin American capitals as a Utopian dream which has already been dispelled by the aggressions of the United States in the Caribbean area. The suggestion of the distinguished Uruguayan probably is ahead of the times, but, so far as it concerns our submission of the Monroe doctrine to other American Governments for judgment, we may recall that for several years we have already been bound by treaties with no less than 15 of the 20 Latin American Republics to "submit all disputes of every nature whatsoever," including presumably those involving the Monroe doctrine to joint commissions for investigation (though not for a final and binding arbitration) during the period of one year. Former President Taft's memorandum to President Wilson, dated March 21, 1919, regarding Article X of the covenant of the league, indicated a readiness to accept the above principle and to carry it even further in the form of a definite acquiescence in the protection of the sovereignty and territory of any American State or States by any other such State or States—a position which he believes to be "the Monroe Doctrine pure and simple."

One further evidence of the new trend of events may be noted. "The war has reduced to dust the ancient legend of the calibanism of North America," as Semprum, the distinguished Venezuelan man of letters, has expressed it; we are no longer "rude and obtuse monsters whose newspapers and feet are large," as we were described by the great poet, Darío; no longer a towering menace, "swift, overwhelming, fierce, and clownish" (even though our own widely circulated motion-picture films seem to confirm some at least of those impressions). More than one Latin American publicist has observed, in the words of one of them, that "the part the United States has played in this war is the noblest that has ever fallen to any people." Saenz Peña, the late President of Argentina, may have been partially right when he wrote in 1914 that "we South Americans have only unwelcome memories of our friends in the north." He was certainly correct in stating that at that time there were more points of material contact between South America and Europe than there were between the two Americas. But, as has been noted above, much has happened to alter that situation during the past six years. For one thing, we have become a great creditor nation, and some of the larger Latin American Republics have also appeared as lenders of capital. In consequence of that fact a prediction made some 11 years ago by Prof. A. C. Coolidge, of Harvard, has been fulfilled: Irresponsible borrowers in the new world are finding themselves answerable to creditors nearer home, and the Drago doctrine defense of debtors is being

examined by the American nations from a new angle, with a new understanding of the interests and point of view of the creditor.

It is certainly encouraging to have a well-known Latin American from one of the smaller Republics declare that "absolute stability of credit is the only positive basis of national and individual prestige." Then he goes on to note that the Monroe doctrine has become a precept of the American family whose closer economic and commercial ties help the autonomy and defensive powers of each one. And it is interesting to note what one of the recent stimuli to this new regional rapprochement is the threatening danger of incursions of radical agitators from eastern Europe which is even now presenting a grave problem to the southern Republics as well as to ourselves. The Monroe doctrine of 1823 was aimed in part at Russian political aggressions in the New World. One of the factors which will stimulate a united American stand upon a new and broader principle, as we approach the centennial of the doctrine, may very well be the defense of America against the menace of Russian bolshevism and its attendant evils.

To all of these we hear from certain sensitive and suspicious critics the condemnation that "the United States is giving the Monroe doctrine an economic imprint * * *. The doctrine has come to express the ambitions of the United States to keep business Europe rather than political Europe out of Latin America;" that every effort on our part toward economic cooperation with the southern Republics means just one more attempt to clinch our economic hegemony over that area. And yet, when in May, 1920, American bankers refused to renew a loan of \$50,000,000 to the Argentine Republic, we were denounced as insincere and unfaithful to the principles of Pan Americanism, and our prestige in Latin America suffered the worst blow which it has had in many years.

Our intentions should not and do not by any means contemplate any exclusive or monopolistic arrangement for economic cooperation with Latin America. If, for example, the Pan-Hispanic movement should take an economic turn—and there are already signs of such a tendency—our purpose should be to meet it in a spirit of frank and friendly rivalry and to let our Latin American friends choose between the two.

This much seems, then, to be clear: The marked strengthening of economic relations and bonds among the Latin American Republics on the one hand, and between them and the United States on the other, points very definitely toward a new epoch in the history of the Monroe doctrine, in which regional understandings, primarily perhaps along economic lines, but nevertheless affecting inevitably the diplomatic and political relationship, will play an important part.

TWO SCIENTIFIC ASSOCIATIONS

AT the Sixteenth Annual Meeting of the American Political Science Association held in the city of Washington on December 29, 1920, Dr. Leo S. Rowe, the Director General of the Pan American Union, was elected president. Dr. Rowe succeeds Dr. Paul S. Reinsch, formerly minister of the United States to China.

The American Political Science Association was organized at New Orleans, December 30, 1903, for the encouragement of the scientific study of politics, public law, administration, and diplomacy. It publishes the American Political Science Review.

Dr. Rowe was also reelected to the presidency of the American Academy of Political and Social Science at the meeting held in Philadelphia on January 17, 1921. Dr. Rowe has held the position of president since 1902. The American Academy of Political and Social Science was founded at Philadelphia in December, 1889, and incorporated two years later. The Philadelphia Social Science Association, founded in 1869, was merged in the academy immediately after the latter's foundation.

The academy publishes the Annals of the Academy of Political and Social Science. It holds five or six sessions each year open to the public, and an annual meeting in April or May of each year with a general topic of widespread interest. The annual meeting of the academy this year will be held on Friday and Saturday, May 13 and 14. The general topic will be "Place of United States in a World Organization to Maintain Peace." There will be six sessions, each devoted to some phase of the subject. The Friday morning session will be "Record of the Accomplishment of the Existing League of Nations"; Friday afternoon, "The Monroe Doctrine, Effect of America's Participation in a World Organization on the Doctrine"; Friday evening, "Possibility of Disarmament by International Agreement," subtopic, "Effect of the Participation by the United States in a World Organization Upon Her Military and Naval Policy"; Saturday morning, "Treatment of Backward Peoples in a World Organization", subtopic, "System of Mandates and Obligations of Mandatories in the Existing League of Nations"; Saturday afternoon, "Function of International Courts and Means of Enforcing Their Decisions," subtopic, "Should Such a Court Have Compulsory Jurisdiction?" and "What Powers, if Any, Should Be Given to the Court to Enforce Its Judgments?"; Saturday evening, "Essentials of an Effective World Organization."

INTERNATIONAL POSTAL CONVENTION

A MOST important group agreement was entered into by delegates representing Spain, the Spanish colonies, the United States, the Philippine Islands, Argentina, Bolivia, Brazil, Colombia, Costa Rica, Cuba, Chile, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela, who were in attendance on the Seventh Congress of the Universal Postal Union, which held its sessions in Madrid, Spain, during October and November, 1920.

This agreement, in accordance with paragraph II of Article 21 of the Universal Postal Convention, which allows for separate group agreements, was made and signed on November 11.

The convention is as follows:

[Translation made from the original Spanish.]

The undersigned, assembled in Madrid, duly authorized by their respective governments and in accordance with paragraph II of article 21 of the principal convention of the Universal Postal Union, by mutual agreement, subject to ratification, have agreed on the following articles for the regulation and betterment of their postal relations:

ARTICLE I.

1. All the countries signing this convention will form one single postal territory.
2. Prepayment of postage is declared obligatory on all classes of correspondence transmitted from any one to another of the countries constituting this union, except in the case of letters, to which alone shall be accorded a tolerance limit for insufficient postage.
3. Each one of the signatory countries agrees to transmit freely and gratuitously through its territory, by means of the services established or used for its own mail, the mail received from any of the said countries destined to any other. However, the expenses of transportation by land or sea shall be at the charge of the country of origin whenever there is transit through a country not a party to this convention.
4. It is set forth as a fundamental principle that in the postal relations between the countries parties thereto, the tariff which each country has established for its own domestic service shall govern.
5. The provisions of this convention apply to letters, post cards, of plain and return postage, and to printed matter of all kinds, business documents, and samples.

ARTICLE II.

1. *Letters.*—(a) Every letter which does not bear the proper stamps for first-class mail matter shall be considered as not mailable and will not be forwarded by the office of origin.

(b) The office of origin alone is authorized to impose the rate for insufficiently stamped letters, which shall be doubled by weight for the insufficiency. The office

of destination shall collect the insufficiency of postage imposed by the office of origin and credit the same to its own use.

2. *Post cards*.—For postal cards, both plain and return postage, the domestic tariff of each country shall govern.

3. *Books, periodicals, printed matter, and business documents*.—The weight of packages containing books, periodicals, printed matter, and business documents shall not exceed 4 kilos, except in the case of works printed in a single volume, when a maximum of 5 kilos is allowed. The size of packages shall not exceed 45 centimeters in any dimension.

Parcels presented in the form of rolls will go through the mail provided the size does not exceed 1 meter in length by 15 centimeters in diameter.

Business documents shall carry the minimum rate as fixed by the tariff of the country of origin.

4. *Samples*.—Samples will be freely transmitted by mail if they have no commercial sale value and if their size does not exceed 30 centimeters in length, 20 centimeters in breadth, and 10 centimeters in depth or thickness. If the packages are in the form of rolls, the maximum dimensions shall be 30 centimeters in length by 15 in diameter.

Samples shall not carry postage less than that provided for by the tariff of the country of origin.

ARTICLE III.

Responsibility for loss of registered mail.—1. In case of the loss of registered mail matter the sender shall have the right to an indemnity as determined for a like case by the domestic legislation of the country of origin, but which may not exceed 50 francs gold.

2. The payment of the indemnity by the sending office shall be made at the latest within a period of 12 months, counting from the day following that on which the claim is filed. The postal service responsible for loss shall reimburse the service of the country of origin without delay and within the period set out the amount of the indemnity which may have been paid the sender. This payment will be made in the money of the creditor country or the equivalent in the money of any other country, as may be agreed on by the national services interested.

ARTICLE IV.

In all cases not in conflict with the provisions of this convention the rules of the Universal Postal Union shall govern.

ARTICLE V.

The present convention shall take effect on the 1st of January, 1921, for the countries which at that date may have ratified the same, and for those that have not at that time done so, on the date when they notify the other signatory countries of the ratification hereof.

This convention is of indeterminate duration, but any one of the parties may withdraw therefrom upon prior notice one year in advance to the other signatories.

Done at Madrid the 11th of November, 1820.

The Division of Foreign Mails of the United States Post Office Department has furnished the following memorandum on the application of the above convention:

The convention provides for the application of the domestic rate to letters mailed in one country addressed for delivery in another country of those signing and ratifying the above convention. Thus, the rate on letters originating in the United States will be 2 cents an ounce or fraction of an ounce instead of 5 cents for the first ounce and 3 cents for each additional ounce, the rate under the convention of the Universal Postal Union.

The convention applies the domestic rate to postal cards. In the United States this rate is 1 cent for each single card and 2 cents for each double card (or card with paid reply) instead of 2 cents and 4 cents, respectively, the international rates.

It extends the domestic rate of each country of origin to printed matter, commercial papers, and samples of merchandise mailed in such country, resulting in a reduction in the rates on such matter in all cases where the domestic rate of the country of origin is lower than the international rate, the international rate being maintained wherever the domestic rate is higher. In view of the classifications in force in the domestic service of the United States, the concession granted by this provision to American exporters and others mailing this class of articles for delivery in any part of the countries concerned consists in the reduction in the rate on second-class matter from 1 cent for each 2 ounces, the international rate, to 1 cent for each 4 ounces.

This convention raises the maximum weight limit for printed matter and commercial papers from 2 kilograms (4 pounds 6 ounces), the international weight limit, to 4 kilograms (8 pounds 12 ounces), and likewise provides for a maximum weight limit of 5 kilograms (11 pounds) for single volumes of printed books, no such special provision being made in the convention of the Universal Postal Union. It also increases the dimensions for these articles in the form of a roll to a maximum of 1 meter in length and 15 centimeters in diameter; that is, about 40 inches and 6 inches, respectively.

The new convention of the Universal Postal Union, signed at Madrid November 30, 1920, increases the maximum weight limit for samples of merchandise from 12 ounces to 16 ounces, and it is understood that this provision will be carried into effect immediately when this special convention becomes operative.

When the above convention becomes operative, each country will communicate to the other countries in the restricted union the reduced rates applicable in such country under the new agreement, but until such information is received it can not be stated what the new rates will be in each of the other countries. However, the maximum weight limit and dimensions above referred to will be uniform.

The new convention provides also that all articles of mail matter, except letters, must be fully prepaid by the senders, and that letters must be prepaid at least one rate (or 2 cents in the United States). This is an excellent provision because of the frequent failure of senders to properly and fully prepay their correspondence for foreign countries, and because of the circumstance that doubtless the domestic rates of the various countries forming this union are not uniform, and, consequently, the rates in different countries, on mail matter covered by this treaty, will vary considerably. As a large majority of letters sent to foreign countries do not weigh in excess of 1 ounce, and in view of the necessity for a more expeditious handling of letters and of a possible slight variation at times in the scales in use, the provisions concerning the part prepayment of letters is deemed better than a requirement of absolute or full prepayment.

Under the convention of the Universal Postal Union, the country of origin is required to compensate an intermediary country for the land and sea transit of its mails at uniform rates for each country, based on the statistics taken periodically. Under this special treaty, such service is gratuitous when performed by one country of the restricted union for another country of said union. As this character of service performed by the United States for the other countries of the union (that is, Spain, the countries of Central and South America, Mexico, and Cuba) is very much greater than the similar service performed by said countries for the United States, the advantages administratively to the other countries are greater accordingly than the advantages secured to the postal administration of the United States. The sentiment for free transit throughout the entire Universal Postal Union was quite general and persistent in the Universal Postal Congress of Madrid, and it is believed will be presented even more emphatically and with stronger support at the congress to be held in Stockholm in 1924.

ARGENTINE AND UNITED STATES EXCHANGE¹ ∴ ∴

BY EDWIN BATES.

AN understanding of exchange on Argentina requires a study of the international trade and financial conditions of that country for the past two or three years. Before the war Argentina had a favorable balance of trade, its financial system was sound, a free gold market was maintained, its credit was regarded favorably throughout the world, and exchange was subject to normal fluctuations. The war brought about great changes in its invisible factors of exchange, such as payment of ocean freights, interest on foreign investment, remittances by immigrants to relatives abroad, and the investment of new foreign capital. Recently there has been an increase in the invisible items which Argentina has been required to pay, and the situation differs much from that before the war.

Upon the outbreak of the war and the consequent increased demands for foodstuffs, wool, hides, and skins, and various other commodities which Argentina furnishes to the world, the trade balance of that country became even more favorable than in prewar years. For the year 1913 the excess of exports over imports amounted to \$22,127,000; this increased to \$77,781,000 in the following year, and to \$267,007,000 in 1915. For 1916 and 1917 the favorable balances were respectively \$199,629,000 and \$163,904,000. As a protection to her exchange and for the maintenance of her gold fund, however, Argentina passed a gold embargo act soon after the outbreak of the European War. Although passed as war-emergency legislation, this act still operates as one of the contributory causes of the present situation. For their own protection the Allies were reluctant to ship gold, and the mercantile balance therefore practically determined the movement of the European exchanges upon Buenos Aires during the greater part of the war. The conversion of Argentine securities on the part of England and France tended to steady the rate to a certain extent.

Upon its entrance into the war the United States believed it necessary to protect the gold fund of this country and a gold embargo act was passed in the fall of 1917. Its trade position with Argentina then became the governing factor in exchange on that country. Prior

¹ Reprinted from Commerce Reports, Nov. 19, 1920.

to 1914 it had usually held a favorable trade balance with Argentina. In 1914 it had an unfavorable balance of about \$6,000,000, in 1917 this had increased to \$22,000,000, and in 1918 to \$123,000,000. These unfavorable balances, together with the operation of its gold embargo, caused a depreciation of the American dollar on the Buenos Aires market.

In the early part of the year 1918, the Allied Powers made credit arrangements with the Argentine Government whereby payments for Argentine products were deferred. The British and French Governments arranged for a credit of 40,000,000 pounds (pound = \$4.866 at normal rate of exchange) for the purchase of cereals, with the understanding that the Argentine Government might draw against the English Government when the rate did not exceed 50 pence per Argentine peso (normal rate being about 48 pence per peso), and against the French Government when the rate did not exceed 5.60 francs (franc = \$0.193 at normal rate of exchange) per Argentine peso (normal rate being 5 francs per peso). When the rate exceeded the above quotations the account was to stand to the credit of the Argentine Government.

In August, 1918, the United States also obtained credit from Argentina to the amount of \$40,000,000, this being increased later to \$60,000,000. By the terms of the agreement gold due Argentina by United States was to be deposited with the Argentine Ambassador in Washington, who in turn was to deposit it in current account in the Federal Reserve Bank of New York. Upon notification from the Argentine Ambassador the Conversion Office of Argentina would issue currency to the creditor in payment of the debt, this currency being maintained by the gold deposits to the credit of the Argentine Government in the Federal Reserve Bank. The agreement was that no gold was to be shipped until after the signing of the treaty of peace. The opening of the year 1919 found the embargo on American gold still in effect and an unfavorable balance against this country continuing.

On January 2, 1919, the maximum decline in the American dollar was reached for that year, at which time \$100 American gold bought 97.70 Argentine pesos instead of the normal purchase of 103.65 pesos. This represents a discount on the dollar to the extent of about 6 per cent. Although this seems small in comparison with depreciation of the currencies of certain European countries on the American market, nevertheless it was an appreciable amount. During the first half of the year 1919 the American dollar stood at a discount of from 3 to 6 per cent. The credit which the Argentine embassy had established in New York then exceeded the amount of \$60,000,000 which had been agreed upon.

On June 9, 1919, the embargo on the exportation of American gold was lifted. As a consequence of the unfavorable balance which we had been accumulating, gold shipments immediately began and continued heavily throughout the remaining half of the year. Our imports from that country in 1919 exceeded our exports by \$43,000,000, and this balance was more than covered by the shipping of \$56,560,000 from New York to Buenos Aires between the lifting of the embargo and January 1, 1920.

In the early months of 1920 the shipments were very heavy, Argentina receiving far more American gold than any other country. By arrangement between English and American bankers, \$50,000,000 was shipped to that market by our bankers on British account. A large portion of the movement of gold from Great Britain to the United States during last spring went to the Argentine market on the account of British debtors. Thus, all the gold going from the United States to that market was not available to rectify dollar exchange.

According to statements of the Federal Reserve Board, \$26,350,000 was released for Buenos Aires in the two-month period from April 10 to June 10 of the present year, this amount being about 55 per cent of the total gold shipments from the United States for that period. The exchange of the Argentine peso for this period continued fairly stable, moving only about 2 cents in the quotation of the peso in American money (par value of the gold peso being \$0.9648 United States currency). For the fiscal year 1920, which represents almost exactly a year of a free gold market in the United States, about \$146,000,000 of American gold was sent to Buenos Aires. Much criticism of the policy of the United States in maintaining a free gold market was heard, but later developments demonstrated that the policy was sound.

The first quarter of the present year showed a mercantile balance in favor of Argentina of \$13,000,000 in her trade with the United States. This is about 30 per cent higher than the average quarterly balance of trade for last year. It will be recalled that our debt to that country for 1919 was given as \$43,000,000. Following the first quarter of the present calendar year, the months of April and May continued to show that our exports to Argentina were much below our imports from that country, the balance for these two months being \$12,722,828. The month of June showed a decrease in both our exports and imports and a reduction of 50 per cent of the unfavorable balance of the two previous months. A further decline in this unfavorable balance occurred in the month of July, and for the month of August, the last month for which statistics are available. American exports to Argentina exceeded our imports from that country. However, the export balance was less than \$100,000. This change in our trade relation with Argentina was caused in large part by the sharp

price reductions which had taken place all over the world in the raw materials making up the bulk of Argentine exports.

Simultaneously with the falling off of the Argentine imports gold began to be released from the Federal reserve bank for American creditors. It was announced by the Argentine ambassador the last week of May that \$4,500,000 had been released that week for American interests. At that time the amount to the credit of the Argentine Embassy remained about \$68,000,000. On June 25, or one month after the movement had begun, it was announced that \$30,800,000 had been released from the New York bank. Thus the settlement of debts by Argentine debtors was effected by their making deposits of gold in El Banco de la Nación in Buenos Aires, which in turn ordered releases of equal amounts in the United States.

These releases of Argentine gold continued to increase rapidly from the latter part of June, and on July 10 it was announced from Buenos Aires that the sum of \$43,820,000 had been released since the movement began the latter part of May. It was stated at that time that \$28,423,000 remained to the account of the Argentine Embassy in the New York bank. During the following week the exchange on Argentina reached a new low record for the year, and \$100 of United States gold bought 109.50 pesos on the Argentine market. The week ending July 24 additional sums were released, and it was announced that the Minister of Finance of Argentina had given orders to El Banco de la Nación to stop accepting deposits of gold, which called for equal withdrawals in the United States. Up to the time of this action Argentina can be said to have been a free gold market, so far as transactions with the United States were concerned, but with this decree the country became a closed gold market. Immediately exchange on Buenos Aires fell, and during that week a new low record was reached and pesos were quoted at the rate of 113.50 to \$100 of American gold.

Much criticism in Argentina was raised by those who had obligations to settle in the United States, and the Argentine Minister of Finance was called upon to defend the policy of his office in continuing the embargo on gold and to explain the rise in the rate of exchange upon foreign centers. The policy of the Department of Finance in continuing the embargo may be accounted for in some measure by the fact that shipments of gold from European centers were curtailed and to the belief that the lifting of the embargo would result in considerable shipments from Buenos Aires. Certain modifications of the measure were effected and additional sums were released. The exchange rate continued to move against Argentina steadily. The week of October 11 it was announced that all gold held in this country by the Argentine Government had been exhausted, and the following week a new low record for the peso was

made when it took 127.50 Argentine pesos to buy \$100 of United States exchange. According to cable quotations on November 15, \$100 United States currency bought 132 Argentine gold pesos, thus indicating a premium on the dollar in the Argentine market of about 28 per cent. [The New York exchange rate on Dec. 23 was: Peso = 77.5 cents, equivalent to \$100 = 129 pesos.—EDITOR OF BULLETIN.]

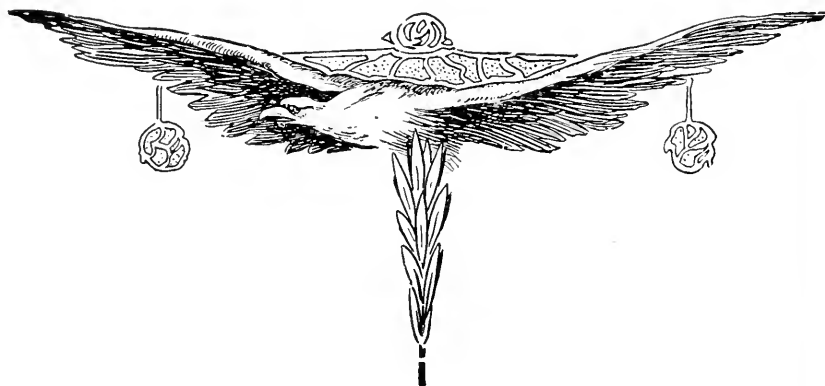
Exchange is dependent in part upon the balance of trade and in part upon the credit of the country concerned. Argentina may be said to be in the "interest-paying" stage of development. It is paying interest to the United Kingdom, to France, to the United States, and to other countries on investments made by these countries in Argentina. It is paying freight to foreign shipping countries, because its own merchant marine is chiefly engaged in coastwise shipping. The Italians, Spaniards, and other elements in its population are making remittances to friends and relatives in Europe. Many of the large factories, railroads, and other industrial enterprises, which have been constructed by foreign capital in Argentina, are sending profits back to the country from which the capital came. Owing to the above factors, in order for Argentine exchange to be approximately normal it is necessary that the exports of the country should be much in excess of the imports. That is to say, the interest payments, freight rates, profits, etc., must finally take the form of shipments of goods and this requires Argentina to have an excess of exports over imports in normal times. This applies not only to its trade with the United States, but also to its trade with the world as a whole. In recent months, however, Argentina's exports have declined in proportion to its imports on account of the dull world market for its export commodities, the restrictions on the exports of wheat, and the congestion of shipping in the River Plate ports. This trade condition is reflected in the exchange quotations.

Credit and investment conditions in Argentina have also played an important part in the movement of the exchange within recent months. In pre-war years the high interest rates prevailing in Argentina attracted foreign capital and also retained in the country the profits made upon foreign investments. Since interest rates were usually lower in New York, London, and Paris, there was no incentive for withdrawing profits and sending them to foreign financial centers as they could be invested to greater advantage in Argentina. To appreciate the present Argentine situation the pre-war situation must be borne in mind and the present condition of the world's money markets must be taken into consideration. Stringent conditions the world over have raised interest rates in all the financial centers and Argentina no longer offers an interest rate that will attract capital from abroad.

This curtailment of the supply of capital in foreign centers prevents an inflow of funds to offset the net unfavorable balance of trade; this curtailment also reduces the capital available for productive purposes and thereby lessens the supply of goods for export. Furthermore, the demands for money in foreign centers have caused the withdrawal of profits upon investments in Argentina in order to supply the parent organizations with funds. Argentina has thus been called upon to buy exchange for transmitting profits upon foreign investments within her borders.

As has been shown previously there is an embargo upon the export of gold and the fund in New York, which has been used to settle its trade balances, has been exhausted. Consequently, this embargo prevents an improvement of the exchange situation by exporting or delivering gold to foreign countries.

Since the movement of Argentine trade has such a direct bearing at the present time upon the recovery of her exchange, any changes in the trade would likely register a change in the quotation of the peso. The fall months are usually periods of heavy shipments. A recovery of the market for Argentine products in the United States would increase her shipments to this country. Since it is a generally accepted theory of foreign exchange that the selling of securities by a country amounts to the same as exportation of goods, it is also possible that some effects upon the situation may result if a larger demand for Argentine securities can be created in the United States. Speculation usually attends a fall in exchange such as the peso has recorded, and it is probable that the buying of Argentine credits and securities will come as a result of the recent decline. However, the recovery of its own trade situation, the removal of the gold embargo, and the improvement of conditions both in the markets for commodities and the demand for money in all parts of the world remain the most important methods of bringing Argentine exchange more nearly to a normal basis.



SECTION OF EDUCATION OF THE PAN AMERICAN UNION

REPORT SUBMITTED TO THE GOVERNING BOARD OF THE PAN AMERICAN
UNION AT THE MEETING OF JANUARY 5, 1921, BY THE ASSISTANT
DIRECTOR IN CHARGE OF THE SECTION.

THE section of education, in charge of the undersigned, has continued to give its most careful attention to the task of arousing and maintaining the interest of students, teachers, and educational institutions of all the Americas in establishing mutual cultural relations. Its chief efforts are of necessity centered in the United States, where there has been created a constantly growing desire to study the geography and history of Latin America, and to further the development of educational and commercial relations with the other countries of the hemisphere.

Although it is true that at the beginning the aim of this educational movement was simply to foster commerce by teaching certain general facts, very inadequate to be sure, about the other countries of America; to-day the necessity of pursuing more thorough studies is better understood, because of a growing recognition of the value of the culture and civilization of the Latin American peoples.

Thus we find in nearly all the university centers and important cities of the country, Spanish clubs made up of Anglo Americans and Spanish Americans, holding special meetings for the purpose of giving lectures on the literature, history, and geography of the countries south of the United States, generally illustrated by lantern slides, which are frequently loaned by the Pan American Union. The section of education is consulted almost daily as to what subjects would be most interesting for these lectures, the best works dealing with these topics, textbooks for learning Spanish, the national airs of Latin American countries, their popular music, their great men, their most notable writers, etc. Equally common are requests for the descriptive pamphlets published by the Pan American Union on the countries of Latin America, copies of the Spanish edition of the BULLETIN, and Spanish newspapers or magazines for the use of students of that language. The section of education tries, as far as possible, to comply with such requests.

A noteworthy interest along commercial lines is being shown by institutions like Boston University, which has founded at Habana a

branch for the study of commerce, and plans to establish similar branches in different parts of Spanish America if conditions are favorable; Valparaiso University, in Indiana, which offers special commercial training to young men from Latin America, who are willing to return to their respective countries as agents or representatives of American business houses or manufacturers; the splendid courses offered by the schools of commerce at Columbia University, New York University, Harvard, Tulane, the University of Notre Dame, Chicago University, the State universities of Pennsylvania, Illinois, Ohio, and California, and others. The School of Foreign Service of Georgetown University, at Washington, D. C., organized last year, inaugurated a very important educational movement by sending a group of students to Venezuela for the purpose of perfecting their knowledge of Spanish and enabling them to study at first hand the customs, civilization, and culture of the Venezuelan people. Desiring to reciprocate in some way the courtesies shown in Caracas to these students from the United States, Georgetown University has offered free tuition to a couple of Venezuelan students. During the past year the Summer School of Pan American Commerce and a commercial school at Atlanta, Ga., were also organized.

This educational movement along commercial lines has spread throughout the United States. But this is not all; until a few years ago in the majority of institutions in this country the teaching of Spanish was in the hands of Germans, French, Italians, Americans, and very rarely a Spaniard or Spanish American. To-day in most of the principal colleges and universities the chairs of that language are occupied by professors whose native tongue is Spanish, and in some institutions special courses have been developed for the purpose of training Spanish teachers. As some States require that teachers in the public schools shall be American citizens, these special courses for American teachers are very much needed. The study of Portuguese, while not very extended, is not neglected, and there are several clubs of Brazilian students which are devoting their energies to encouraging the study of the Portuguese language and literature.

The section of education makes every effort to keep in touch with this educational movement, and whenever consulted it has furnished all available information and made such suggestions as seemed needed for the success of the plans submitted. The National Bureau of International Educational Correspondence organized by Peabody College, in Tennessee, requested the assistance of the section of education in establishing an exchange of correspondence between pupils in the schools of Latin America and those in the United States. The section accordingly took the matter up through the members of the governing board, and is informed that some of the countries sent lists of schools, many of which have already entered into the

exchange of correspondence as requested. Some other schools, such as those of New York City, for instance, have made their own arrangements for a direct exchange of letters between their pupils and those of certain Spanish-American countries.

During the past year 49 American teachers (17 men and 32 women), without counting many other inquirers who did not seem to have the necessary qualifications, have consulted the section of education regarding their desire to go to Latin America to teach. Information regarding these teachers was placed at the disposal of the adviser to the Peruvian minister of instruction in New York, and the commissioner of education of Porto Rico, who called at the Pan American Union. The educational section in several cases initiated specific negotiations for the exchange of professors, and sent directly to all the educational officials of Latin America a circular setting forth the aims of the section and the services it is prepared to render, at the same time calling attention to the fact that many Americans desire to go to South America to teach various subjects.

There are also many American students who wish to go to Latin America to complete their studies, but the almost prohibitive cost of the trip has prevented their doing so; however, one is now in Argentina and another went to Mexico as a result of the information given them by the educational section relative to educational opportunities in those countries.

This serves to show that the section has lost no opportunity to further the interchange of professors and students, and to assist in establishing relations between the universities of all the American Republics. It took an active part in bringing about the visit of the president of the University of Arizona to the University of Mexico, which was very successful, and in the no less successful visit which he is now making to the universities in the Pacific coast countries of South America. The section of education has interested itself in the trip through certain South American countries which is being made by Prof. George W. Umphrey, representing the Institute of International Education in New York, in the exchange of professors already instituted between the University of California and the University of Chile, and in the plan of the University of Notre Dame, Indiana, to send some students to South America, receiving two young men from Latin America, as the result of the trip made by the director of the university's chamber of commerce.

In view of this situation the undersigned begs to request from the members of the governing board their interest in having the educational institutions of their respective countries reciprocate the facilities offered and the interest so clearly shown by those of the United States. At the present time 55 colleges and universities (5 of which offer special scholarships) and 12 normal schools in this country grant free tuition to Latin-American students in numbers varying from 1 to

12 or more, this concession representing a value to each student of from \$20 to \$350 annually; while the Association of Collegiate Alumnae, composed of women graduates of colleges and universities, offers to a woman graduate student a fellowship of \$750 per year. It would not be unreasonable, as a return courtesy, for the most important institutes of Latin America to make a similar concession of exemption from matriculation fees for students from this country, facilitating their admission to the courses they wish to take, and assisting them as far as possible in securing living accommodations, as is done here for Latin-American students. The section of education recently received applications from one young woman and two men, well fitted to do advanced work in any university of Spanish America, who wish to complete their studies abroad, at the same time teaching in some school in order to meet their expenses. Many colleges in the United States receive students from the other countries of America under such an arrangement as this.

In the year past the educational section had an opportunity to be of service to 15 Spanish-American teachers (13 men and 2 women). Seven of these had come to the United States to study educational methods, and were given letters of introduction to the institutions they wished to visit, as well as the information they needed to properly fulfill their mission. Eight of the teachers desired positions as Spanish instructors, and these were put in touch with the special agencies devoted to this class of service.

In this same period of time 123 Latin American students (109 men and 14 women) availed themselves of the services of the section of education, which gave especial attention to their inquiries, securing for 23 students the acceptance of their certificates or credentials issued by the Latin American schools where they had been educated; the concession of free tuition was obtained for 19; a position was secured for one as teacher of Spanish in a high school in Montana; 84 special inquiries were answered; and there are now 11 applications pending final action. In many cases the applicants were unable to meet the conditions imposed by the institutions where they wished to study, especially as regards the lack of knowledge of English; others did not have sufficient financial resources for the trip and their living expenses here.

These figures seem insignificant, but when the fact is taken into consideration that each application calls for an individual reply, explaining the necessity of filling out the blank form which the section has had printed for the purpose, and supplying needed information as to living conditions and expenses in this country; the awaiting of the reply, which is sometimes long delayed; examination of the application form that has been returned in order to evaluate the courses taken; translation of this data into English and its transmission to the institutions selected, which frequently gives rise to a long ex-

planatory correspondence; notification of the applicant of the result; and, when the student finally arrives in this country, his introduction to the authorities of the institution to which he goes—then some idea can be had of the work of the section of education, which has not at present the necessary staff. At the beginning of the fiscal year 1920-21 Mr. Arturo Torres, who for over a year gave the section of education the benefit of his technical and practical knowledge, with a conscientiousness and a zeal worthy of all praise, left the Pan American Union to return to teaching in New York.

In addition to the correspondence carried on by the section of education and the attention to minute details required to make the arrangements described, on behalf of each applicant, information has been furnished in reply to important inquiries concerning the courses of study in Latin American universities and schools, the value and efficiency of the work done there, as compared with educational systems in this country; an attempt is being made to form a list of educational institutions whose diplomas are recognized in the United States; a pamphlet in English relative to the courses of study in Latin American secondary schools has been prepared, published, and given wide circulation, eliciting expressions of approval; and the same material has appeared in the Spanish edition of the *BULLETIN*; articles on education have been published in the *BULLETIN OF THE PAN AMERICAN UNION*; efforts were made to secure teachers for the Department of Caldas, Colombia, at the request of Dr. Alfonso Villegas Arango, director of public instruction of that department; a report is being prepared at the request of Prof. Jucundino de Souza Andrade, vice president of the board of education of the State of Sergipe, Brazil, relative to the founding of a school of industrial chemistry in Sergipe; and various requests from some of the members of the governing board have been complied with.

The section of education has done and will continue to do all that is in its power to foster the interest that has been aroused among students and educators of the countries of America. Much, however, remains to be done in order to fully establish this branch of the Pan American Union as a clearing house of information for the Latin American Republics. The section of education should be able to rely on the interest of those in charge of education in Latin America, both officials and private individuals, as it does in the United States. In addition to the information that it might furnish relative to education here, it could also be of service to the students receiving government scholarships from the other Republics, of whom there are now a large number in the United States, if it were informed in due time of their departure and of their arrival in this country, so as to be able to provide them with data which would undoubtedly help to overcome many of the difficulties they experience in a strange land, with resultant benefit to the student.

FOOT-PLow AGRICULTURE IN PERU

BY O. F. COOK.

THREE principal types or systems are to be recognized in the study of the highly specialized agriculture of the ancient Peruvians. In the lower valleys, at altitudes less than 5,000 feet, farming probably was limited to the more primitive milpa system, the same that is still followed generally in tropical America in regions of low elevation. Under the milpa system a new farm is made each year by cutting and burning the trees or bushes, which clear the land for planting and render cultivation unnecessary. In some countries it is customary to raise a second crop, which may receive a little weeding or hoeing, but the land is not kept in cultivation continuously. There must be a new growth of trees or bushes before the same place can be cleared again by burning.

Above the milpa belt, in the intermediate or temperate valleys of the eastern Andes, at altitudes between 5,000 and 11,000 feet, agriculture was of the terrace system, which the ancient Peruvians carried to a higher development than any other people. The megalithic retaining walls, built of huge rocks, unsquared, but fitted together with precision, testify to a high degree of industry, organization, and skill, and must be reckoned among the chief wonders of the ancient world. Hundreds of square miles of land were reclaimed by straightening rivers, walling, filling, leveling, and covering with a deep layer of fine soil. All of these artificial lands had also to be irrigated, often by carrying the water channels for many miles through craggy mountains or along precipitous slopes. After being cropped with maize continuously for centuries the terrace farms are still fertile, and have enabled millions of people to live in a region that in its natural condition could have been of no use for agricultural purposes.

In still higher valleys, at altitudes of from 11,000 to 14,000 feet, the climate is colder, moisture is more abundant, and the slopes are more gentle. There is less need of terracing or of irrigation, but the alpine grasses and other small plants form a dense, fibrous turf, a condition like that of northern countries where the plow is the basic implement of agriculture. Though the early accounts show that llamas were employed extensively as beasts of burden, the ancient Peruvians appear to have devised no means of using these animals for draft purposes or to assist in the cultivation of the soil.

¹ Reprinted from Report of the Smithsonian Institution, 1915.



THE TACLA AS USED BY INDIANS IN THE HIGH ANDES.

The tacla is the ancient instrument used by the Aztecs for turning the earth on the terraced farms of the Peruvian and Bolivian mountains. The instrument is still used in localities where other plowing is impossible.



Photograph by W. V. Alford.

ANOTHER VIEW OF THE TACLA.

The farming of the mountain grasslands was done by human labor, facilitated by a peculiar implement for breaking the sod.

The Peruvian foot plow (in the Quichua language called "taclla" or "chaquitaclla") consists of a rather stout wooden handle, between 5 and 6 feet long, shod in modern times with an iron point about 3 inches wide and two or three times as long. On the left side, just above the iron point, is a foot rest, bound to the handle by leathern thongs. A few inches farther up is another rest, attached in the same way, projecting forward. The second rest is for the left hand, which thus assists the foot in applying the weight of the body to the pushing of the implement into the soil. Middendorff's idea of the "taclla" being worked with both feet may have been suggested by the presence of the two projecting pieces; but one foot would be needed on the ground.

Other names for native Peruvian plows are "arma" and "yapuna," recorded by Holguin and Middendorff, respectively. The verb to plow is "yapuy" or "yapuni," and "yapuk" is a plowman. In the Aymará language, spoken in the high table-lands around Lake Titicaca, "yapa" is a field or farm, corresponding to "chacra" in Quichua. Among the Quichua words that may be related to "taclla" are "tacllamaqui," the palm of the hand, and "taellani," meaning to slap or to knead, which might refer to plowing. Another verb, "takyani," meaning to fix or make firm, might allude to the lashing on of the rests for the foot and the hand. Holguin gives "suruna" as the name of the foot rest of the "taclla." The word "chaquilpa" is defined as a part of a "chaquitaclla," and "huisu" as a stick that is lashed to a plow.

The plowmen do not work alone, but two together, so that their "tacllas" enter the soil only a few inches apart under the same piece of sod, which is then pried up. A boy or woman kneels in front of each team of plowmen to turn the sods as fast as they are loosened. There is also a special word, "raera," defined by Holguin as the boy who turns the sod in plowing. Effort is required in driving the "taclla" into the ground, as well as in prying up the sod. In the rarified atmosphere of the high altitudes plowing with the "taclla" is very strenuous exercise. The men are soon out of breath, and the work has to be done in short "heats." While the operation might be compared to spading, there are three notable differences—the way of handling the tool, the tearing of the sod, instead of cutting it, and the turning of the sod by hand instead of lifting and reversing it with the spade. The "taclla" is like a narrow spade, or spud, but this tool has a sharp cutting edge, and is used to extirpate thistles or other deep-rooted weeds, not for breaking the sod.

The work that was being done on the slopes along the pass of La Raya in the middle of April, 1915 (at the time of the author's visit), corresponded to fall plowing in northern latitudes. Only nar-



Photograph by W. V. Allard.

TERRACED SLOPES IN THE HIGH ANDES.

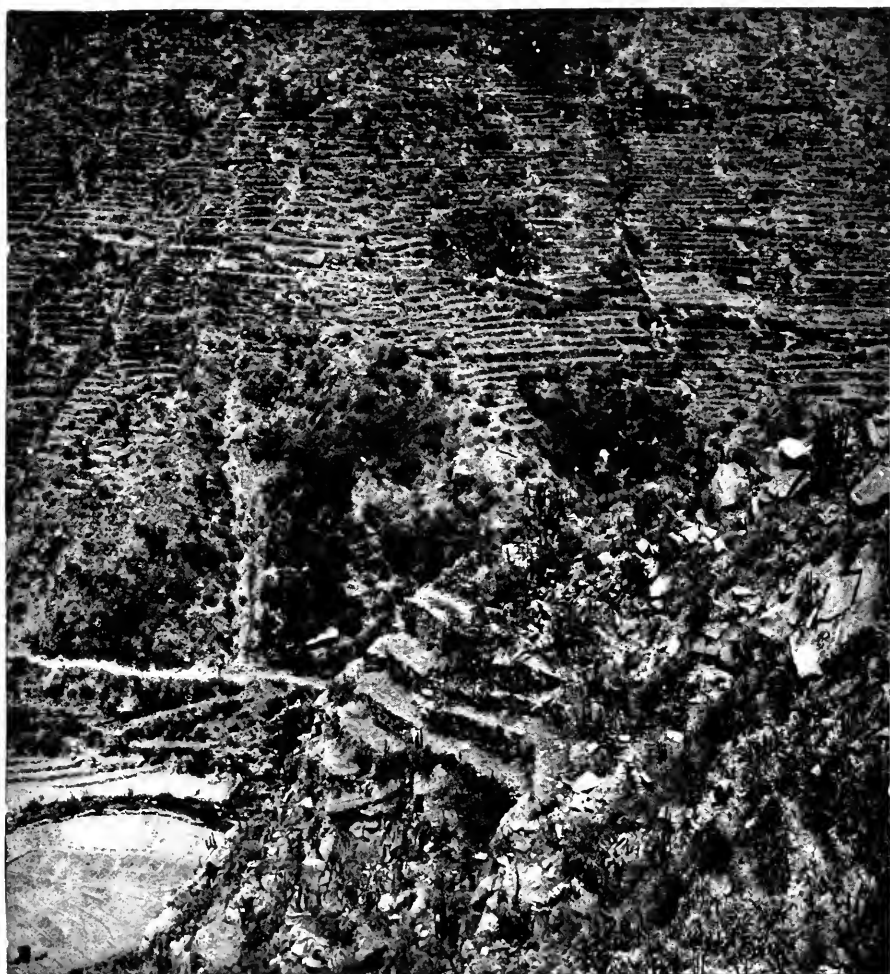
It is on such farms as these that the tacha is used. The elevation of the terrain shown in this picture is about 14,000 feet. Quinoa and potatoes are the only crops grown at this altitude.

row strips of sod were being turned at this time, marking the rows where the potatoes were to be planted, but all of the ground is broken later and the tough sod disintegrates during the long growing season into a loose black soil. The cultivation of potatoes is carried to an altitude of more than 14,000 feet on the southern slopes of the valley in the district between Santa Rosa and Araranea.

Agriculture in the high altitude becomes strictly subordinate to pastoral activities—the feeding of flocks of llamas, alpacas, and sheep on the grassy lands above the range of cultivation. The hardest varieties of potatoes are too bitter to be eaten in the fresh state, but are dried as a reserve stock of food after freezing, thawing, and treading out the juice. The natives are familiar with the names, habits, and distinctive qualities of many varieties of potatoes, including several types that are very different from any known in the United States. The flavors, colors, and textures of the different kinds of potatoes are as keenly appreciated among the high-altitude people as the varieties of apples or peaches are with us. In the pass of Panticalla a hospitable Indian farmer favored us with boiled potatoes to eat out of hand, and insisted that we put the remainder in our pockets. The firm textures and distinct flavors of the Peruvian varieties may be due in part to their being less affected by cooking, since water boils at lower temperatures in the high altitudes. Potatoes are not baked or roasted, fuel being too scarce.

At the upper limit of agriculture, in the pass of La Raya, the only crop associated with the potato is a small species of chenopodium, called "cañihua" (canyéwa). In the year after potatoes a crop of "cañihua" is grown on the same land, with no additional preparation. The "cañihua" is not the same as the better known "quinoa," which is grown at somewhat lower elevations, but is a smaller plant, with smaller seeds, not bitter, like most varieties of "quinoa." The "cañihua" is sown broadcast, requires no cultivation, and is gathered by pulling up the plants and piling them on blankets, where the seeds are rubbed out by hand as soon as the plants are gathered. And after being dried and winnowed the seeds are parched and ground into a meal that is similar to the "gofio" of the Canary Islanders, and is used for food, in the same way, by shepherds in the mountains or travelers on the road.

Weeds and grasses resume possession of the soil while the "cañihua" is growing, and the land is left as pasture for several years before another "plowing" is attempted. The periods of cultivation are too short to break down the fibrous roots of grasses and other plants in the soil, so that very little erosion can take place. In favorable locations the system is permanent, and there is nothing to show how long it has been in operation or how many times the sod has been turned. Uncounted generations have lived in the highlands,



Courtesy of The Geographical Review

TERRACED SLOPES NEAR SALAMANCA, PERU.

The picture shows one of the most elaborately terraced slopes in Peru. The land here is very fertile and a great variety of crops are grown.

and as much labor may have been applied to plowing with the "taella" as in building the walls, terraces, artificial lands, and aqueducts for the more striking system of agriculture that was developed in the intermediate valleys.

That northern Europe may have passed through a stage corresponding to the foot-plow agriculture of Peru is suggested by the survival of a similar implement in the Hebrides and along the west coast of the Scotch Highlands. The Gaelic name, "cascrom," is explained as a compound of "cas," foot, and "chrom," crooked, and is defined in the Standard Dictionary as "a highland pick or bog-hoe for stony ground. Called also foot-plow and crook-spade." As described and figured by Mitchell² the "cascrom" is essentially similar to the "taella," in spite of several differences in detail, such as a longer point, a more distinct curve near the base of the handle, and the lack of a separate hand rest, in addition to the foot rest. The mechanical principle is the same, the use of the weight of the body in breaking the soil. It might be said of the "taella," as of the primitive European implement, the work which the "cascrom" does is neither contemptible in quantity nor quality, and there has gone brain into its contrivance.

The Peruvian foot-plow agriculture may be said to have had a very important relation to the present agriculture of northern Europe, seeing that the northern nations have become so largely dependent upon a Peruvian plant (the potato)—the same crop that was the chief basis of foot-plow agriculture in Peru. That the laborious native system of plowing the potato lands has survived the Spanish conquest is easy to understand, since the Spanish colonists had nothing better to take its place. Spanish methods of plowing with oxen are now in general use in the dry intermediate valleys of Peru, where maize and wheat are the principal crops; but these methods are poorly adapted to the sod lands of the potato belt in the higher altitudes. The primitive plows of dry Mediterranean countries serve merely for breaking and stirring the surface soil, not for cutting and turning a tough sod. The Quichua word for sod is "champa."

Although the potatoes and the other Andine crops are not confined to the soils that have to be broken by the foot plow, this implement may well symbolize the agriculture of the highlands. A special problem was presented by the mountain grasslands, and was solved by means of the "taella." The native hoe, or "lampa," sufficed for the agriculture of the intermediate belt, and the ax or the cutlass for the milpa system of the more tropical valleys where new clearings are cut and burned each year. The foot-plow system is like milpa agriculture in that the land is planted only at intervals, but in other aspects—climate, soils, crops, implements, and methods of farming—it is widely different.

² The Past in the Present, p. 113.

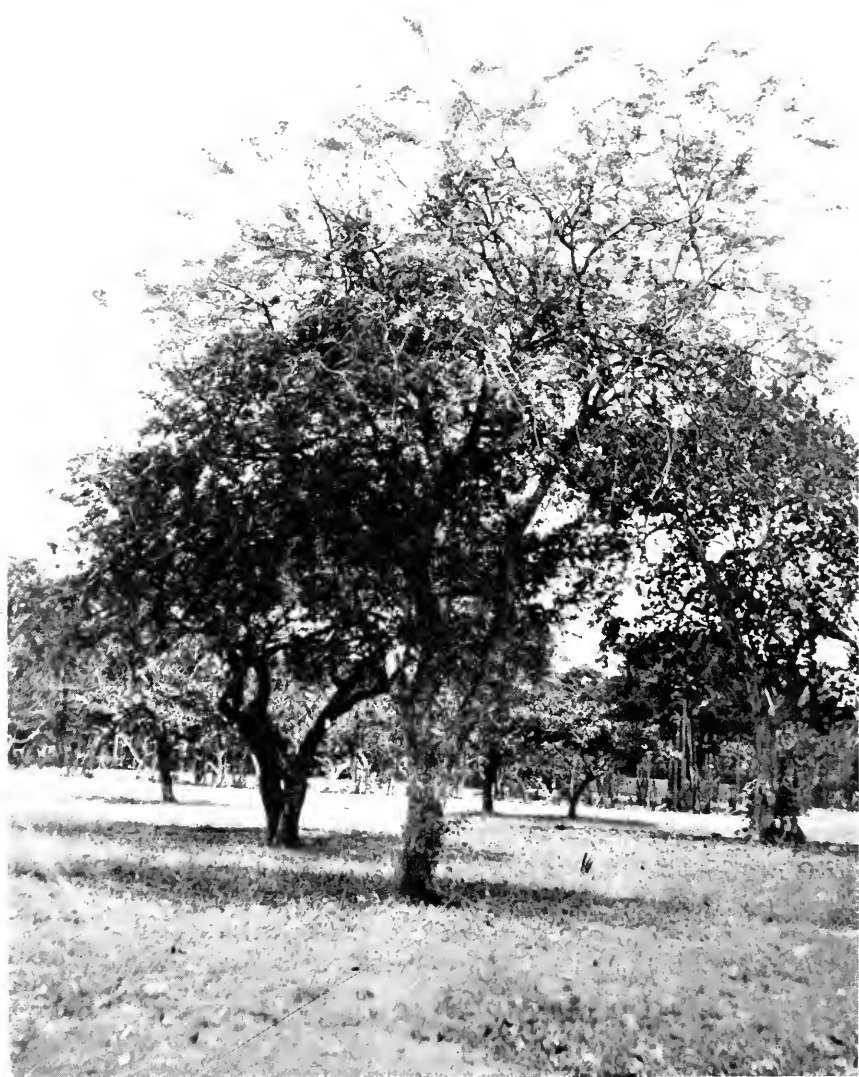
THE TAMARIND AS A FRUIT TREE “ “ “ “

By C. D. MELL.

THE tamarind (*Tamarindus indica*) is a well-known tree in the American Tropics, where it is rarely referred to by any other name. While it is true that in literature this tree is occasionally confused with the St. John's bread tree (*Cerantonia siliqua*), the two are entirely different and can easily be distinguished. In height and general appearance the tamarind is more like some of the dry-land-loving oaks or the mesquite of the southwest. It is a large evergreen tree, often 80 feet or more in height, and sometimes 6 feet through near the ground. Some writers describe it as being one of the most beautiful of the common fruit trees of the Tropics. Its crown is large, rounded, and somewhat open: the branches are twisted and more or less erect. The trunk is short and thick and the bark rough and flaky: that of the branches is thick, light, and corky. The leaves resemble those of the mesquite or our common locust, or are much smaller. The flowers are pale yellow, formed into small, drooping panicles resembling remotely those of our locust, to which the tamarind is related. The season of its flowering is generally about June or July, in which state it presents a rather interesting appearance, the calyx being of a straw color, the petals of a clear yellow beautifully striped with red, the filaments purple, and the anthers brown.

The tamarind is not indigenous to tropical America; it is a native of India and southwestern countries of Asia. It was introduced very early in the eighteenth century into Jamaica, and from there it was distributed to all parts of the tropical west. It grows abundantly in the islands of the South Sea and is now thoroughly naturalized in all tropical and even subtropical countries of the world. While the tamarind is self-sown in all regions of its growth, especially around cities and towns, it is extensively cultivated for shade and ornament, as well as for its fruit. The tree is suitable for avenue planting, especially in India, where it attains larger sizes and the branches spread more than in the West Indies. There are several varieties of this species. The kind growing in India produces larger and better fruit than that in the other parts of the Tropics.

The importance of this tree can not be overestimated. While the fruits are of prime usefulness, every part of the tree is utilized in one way or another. The fruit is highly esteemed wherever the tree grows and much of it finds its way into commerce either in the raw or prepared state. It is a pod botanically called legume which is



A PLANTATION OF TAMARIND TREES IN COSTA RICA.

common to all plants of the pulse or bean family. This pod is from 3 to 6 inches in length and from three-fourths to one and a quarter of an inch in width and about one-half as thick. In general aspect it resembles the pods of the common Lima bean, though somewhat more curved, and has from one to six or more seeds or beans. It has a grayish or rusty covered appearance, and the quite brittle outer shell (*epicarp*) when fully matured is easily removed, leaving an acid-flavored, sweetish, pulpy interior (*sarcocarp*), in which are embedded the rather large, flat, square seeds. The pulpy matter which contains a larger proportion of acid, with the saccharine matter, than is usually found in acid fruits, has membranous fibers running through it from end to end. It is this pulpy matter that has the agreeable taste giving the fruit its value as a food and beverage. It contains, besides sugar and tartaric, malic and citric acid, also mucilage and supertartrate of potash.

The uses to which this pulpy matter are put are almost too numerous to mention. The uses were first learned from the Arabians and the preparation and sale of the pulp in India now constitute a considerable industry and quite a business has sprung up also in parts of the West Indies and in the Philippine Islands. In the East Indies the pulp is removed from the shell and dried in the sun for home consumption; that intended for export is invariably dried in copper kettles. Salt is usually added to the pulp before drying it, which turns it dark. In this state it is shipped to Europe under the name of natural tamarind. The West India kind is called prepared tamarind, which is put up in grades of much less value. In recent years the whole fruits have been imported into the United States. A sirup prepared in Europe occasionally reaches this country. The fruit attains maturity in July and August in the West Indies, when the pods should be collected and shipped at once.

In the United States the pulp is used for a number of purposes. A drink is made of it, called tamarind, that is known for its cooling effect. It is also employed in flavoring subacid confections, which is probably its chief use. It is reputed to have medicinal virtues, especially in cases of fevers and biliousness, but very little of it is used in this country in a medicinal way. In all hot countries it is used against dysentery, and it is said to be highly serviceable. In a small quantity it acts as an astringent and in larger doses as a laxative. Its chief merit is that it has a cooling effect, and for that reason travelers in all hot countries carry it with them to quench their thirst. In Nubia the natives allow the pulp to ferment in the sun, after which it is formed into cakes and dried. This dried mass is then dissolved in water, which forms a very refreshing drink. In parts of India a sherbet is prepared from it. By the addition of sugar to the dried pulp and dissolving in water, vinegar is obtained. In Central

America a drink is made by steeping the ripe pulp of the pods in water. It is then strained, cooled, and sweetened to the taste. It makes a more palatable and cooling drink than lemonade. The pulp is also an important ingredient of curries and many sauces.

In India the seeds are used for food. They are first roasted and then soaked in water until the thick, horny, outer coat comes off. The inner (*cotyledons*) portion is then boiled, and is said to taste almost like the common garden beans. The young seedlings when about a foot high are relished by the East Indians either in the form of a salad or boiled. The leaves of the trees are used in curries. The flowers are used for coloring food. The wood of this tree is exceedingly durable in contact with the soil and air. It is hard, heavy, and very strong, and is highly esteemed by wheelwrights and makers of farming implements. Every part of the tree is useful and it should behoove all landowners in the Tropics to plant this tree more extensively, as has been done in the Philippine Islands, where owners harvest as much as 350 pounds of fruit from good trees and realize a neat profit of \$3.50 per tree per year.



AGRICULTURE, INDUSTRY AND COMMERCE

ARGENTINA.

AGRICULTURAL COOPERATIVE SOCIETIES.—For some time the general directorate of rural economy and statistics has had charge of the formation of cooperative institutions tending to develop the economic independence of small producers. The directorate has worked steadily with this end in view, and as a result, there are at present in Argentina some 120 agricultural cooperative institutions with a total membership of 30,000 and an approximate capitalization of 12,000,000 pesos (paper peso par equals \$0.4245).

RAILROAD OF THE SOUTH.—From the Boletín de Obras Publicas y Industrias of the Republic of Argentina the following facts are taken concerning the Ferrocarril del Sud: The total length of track operated, counting branch lines, in use January 1, 1920, was 7,841 kilometers. The railway has 1,621 bridges, 2 viaducts, 3,344 culverts, 389 stations open to public service, 314 sheds for grain, 369 shelters for general freight, 3 shops, 552 employees' houses, and other works of less importance. On the same date there were in service 685 locomotives, 730 coaches, 735 freight cars, and 14,252 passenger cars. In 1919 there were 26,055,679 passengers transported, 742,550,231 kilometers traveled, or an average of 28 kilometers per passenger.

WOOL EXPORTS.—In the period between 1919–20 and 1912–13 the exportation of wool from the Argentine Republic was as follows: 301,698 bales of 420 kilograms each in 1919–20; 283,066 bales in 1918–19; 288,051 bales in 1917–18; 349,622 bales in 1916–17; 299,207 bales in 1915–16; 304,517 bales in 1914–15; 305,606 bales in 1913–14; and 310,933 bales in 1912–13.

FOREIGN TRADE.—From the report of the general directorate of statistics to the minister of the treasury, the following information on the foreign trade of 1919 was taken: The real value of the imports was 655,772,294 pesos gold, as against 500,602,752 pesos in 1918, or an increase of 155,169,542 pesos. Exports amounted to 1,030,965,258 pesos, or an increase of 229,498,770 pesos over the year 1918. Importation of coin amounted to 32,371,469 pesos, against 17,873,450 pesos in 1918, or an increase of 14,498,019 pesos. The balance of trade in favor of the country for 1919 was, therefore, 375,192,964 pesos, or 74,329,228 pesos increase over the 300,863,702 pesos balance of 1918. This is the highest balance recorded in the commercial history of Argentina. The total value of the live-stock products exported was 48,000,000 pesos in excess of the export of 1918, in spite of the fact that 100,000 tons less were shipped out of the country, the rise in values accounting for the increases. The exportation of agricultural products exceeded by 179,000,000 pesos that of 1918. There were increases in wheat, corn, flax, and wheat flour. The two principal forestal products exported in 1919 were quebracho extract and quebracho wood, reaching the figure of 139,000 tons of extract, valued at 23,500,000 pesos gold, against 9,900,000 pesos in 1918; and 54,600 tons of quebracho logs, worth 1,100,000 pesos, as against 14,600 tons worth 220,000 pesos in 1918.

NEW POSTAL RATES.—The new postal rates have been made effective all over the Argentine territory by a recent law of congress and are as follows: On registered letters, beside the ordinary postage and the registry fee of 12 centavos, there is a fixed tax of 3 centavos per piece of mail, whatever the weight. Samples without value are taxed at 5 centavos for the first 100 grams and 2 centavos extra for each additional 50 grams or fraction thereof, and must not exceed 500 grams in weight. For notices of protest, aside from the fixed rate of registry, the rate for business papers will be paid; for duplicate receipts 20 centavos must be paid; for noting the change of address the charge is 25 centavos; special delivery, aside from ordinary postage, will have a charge for 15 centavos for ordinary special delivery and special delivery with a return receipt, 25 centavos; letters having a declared value in addition to the regular postage carry a charge of 1 per cent per 1,000 pesos or less; those valued at 5,000 are taxed 1 per cent for the first 1,000 and one-half per cent for the rest; the smallest amount of additional postage on letters of declared value is 25 centavos. Boxes with a declared value will be charged

with an additional tax of 50 centavos. Postal money orders and telegraph money orders are taxed 1 per cent commission, and the sending price is 1 peso irrespective of the value of the money order; the smallest commission payable on postal and telegraph money orders shall be 25 centavos, and for notice of payment, if a postal order, the charge is 12 centavos, and if telegraphic, 50 centavos.

REMOVAL OF ARGENTINE EMBARGO ON EXPORTATION OF WHEAT FLOUR.—The Argentine embargo on the exportation of wheat flour and its derivatives was lifted by an executive decree of December 9.

BRAZIL.

PORT IMPROVEMENTS.—A contract has been let for enlarging the port facilities of Bahia. Within 18 months from the beginning of the work the following improvements must be completed: The Mercado dock, a wall for a 26-foot dock to be dredged alongside to a depth of 26 feet, installation of waterworks on the dock, placing of harbor lights and buoys, installation of six movable 3-ton cranes, and the construction of a depot for inflammable substances. The warehouse capacity of the port is to be increased by the construction of seven buildings covering an approximate area of 17,700 square yards. After the foregoing improvements are made the final section of the inner breakwater is to be completed; a 32-foot channel, 600 feet in width, dredged from the southern entrance through the breakwater to the docks; and a number of the docks, which now have 26 feet of water, are to be dredged to a depth of 32 feet. The plan includes the laying of railway tracks along the piers, and the installation of electric light and power. Materials imported for construction work are subject to a 5 per cent ad valorem duty.

PUBLIC HIGHWAYS.—Recently a section of 23 kilometers of the auto road from Maceio to Villa de Ipioca, State of Alagoas, was officially opened to public traffic by the governor of that Commonwealth. It is proposed to build this highway to the frontier of the State of Pernambuco.

BARGES.—A launch service, subsidized by the State of Alagoas, has been established between the cities of Maceio, Alagoas, and Pilar.

BRAZILIAN PINE.—The Argentine-Brazilian Chamber of Commerce of Buenos Aires has taken steps toward securing the same customs duties on Brazilian pine imported into the Argentine Republic as apply on pine imported from the United States.

STEAMSHIP LINES.—In addition to the fast steamship line inaugurated by the Lloyd Brasileiro in August last between Rio de Janeiro and New York, with stops at Bahia and Barbados, arrangements have been made by this company for a service between New York, Rio de Janeiro, Montevideo, and Buenos Aires, calling at Santos, Paranaguá, Florianapolis, Rio Grande do Sul, Bahia, Pernambuco, and Para. Another line will be operated by this company between

Santos, Rio de Janeiro, and New Orleans, with stops at Victoria, Bahia, Pernambuco, Barbados, and Habana. The Pacific Argentine-Brazil Line of San Francisco, Calif., has established a monthly steamship service between San Francisco, Rio de Janeiro, and Santos. This line will receive cargo for the Pacific coast ports of Los Angeles, Portland, Seattle, Vancouver, and Victoria. The Transportes Marítimos do Estado, a Portuguese line, has been organized to maintain two services—namely, one to Amazon ports, and the other to the Brazilian Atlantic ports of Ceara, Pernambuco, Bahia, Rio de Janeiro, and Santos.

REMOVAL EMBARGO ON FOOD PRODUCTS.—On November 17, 1920, restrictions on the export of food products and articles of prime necessity were suspended by order of the food controller.

THE ASSOCIAÇÃO DOS AGRICULTORES DE CACÁO FORM SYNDICATE.—The Associação dos Agricultores de Cacáo have recently founded in Bahia, Sao Salvador, a syndicate of cacao cultivators for the purpose of development of all branches of that industry, including the perfecting of its products, procuring the proper machinery and material, and protecting the interests of the business.

TRADE-MARKS.—On October 2, 1920, the supreme court of Brazil rendered a decision recognizing the right of the commercial board of Rio de Janeiro to refuse the registration of trade-marks which are found to be duplicates or imitations of trade-marks already registered. The effect of this decision is to protect foreign trade-marks duly registered at the board of trade of Rio de Janeiro, in all of the States of the Republic.

CHILE.

DISCOVERY OF RADIUM IN NITRATE.—It is reported that a Chilean engineer has discovered the presence of radium in the nitrate district. The engineer in question, Señor Higinio González, is now in France completing laboratory tests of his discovery. The discovery has aroused so much interest in France that distinguished persons, among whom were the directors of the radium institute, Mme Curie, the Institute of France, and M. Carnot, have asked the Chilean Government to install in the Government university a special laboratory for radium. The Chilean Government has already appropriated for this purpose the necessary sum in next year's budget. Señor Higinio González has been elected permanent member of the Industrial Promotion Society of France, as recognition of his work in the study of radium.

NITRATE EXPORTS.—During September, 1920, Chile exported 5,479,124 metric quintals of nitrate, as against 960,619 quintales during September, 1919. Between July 1 and September 30, 1920, 12,861,318 quintales were exported, or over 10,000,000 quintales more than in the corresponding period of 1919. By regions the ex-

portation of nitrate for the period mentioned was as follows: Tarapaca, 5,165,277 quintales shipped; Tocopilla, 1,551,955 quintales; Antofagasta, 3,997,174 quintales; Aguas Blancas, 659,503 quintales; and from Taltal 1,487,409 quintales.

TELEPHONE SERVICE IN CHILE.—The Government has authorized Señores Manuel A. Diaz and Gustavo Books to install and operate a telephone system in the province of Chiloé, connecting the towns of Ancud, Huandad, and intermediate settlements. The concessionaires have the right to extend the lines to Quemchi, Quicaví, Tenaun, Balcahue, Curaco, Achao, Puqueldon and Aldachildo.

FACTORY FOR EXPLOSIVES.—The directors of the E. I. Du Pont de Nemours & Co., of Wilmington, Del., and the Explosive Trades (Ltd.), of London, are planning the installation of a complete factory for explosives in Chile. Representatives of these firms in Santiago are arranging the preliminaries for the formation of a Chilean company, to be known as the *Compañía de Explosivos de Chile*, with a capital of £400,000, to be located in Calama, Province of Antofagasta.

FACTS ABOUT AGRICULTURE.—The following comparisons were made from figures published for the Government: The area of irrigated lands in Chile, which in 1875 was 440,200 hectares, had increased in 1918 to 1,400,000 hectares. In 1875 the agricultural lands were valued as follows: Irrigated arable land, 432,522, 220 pesos (peso par equals \$0.3650); arable land not irrigated, 259,910,000 pesos; fields and woods, 240,695,200 pesos, or a total of 933,127,420 pesos gold. After the estimates made in 1875 of land value no other trustworthy estimates were made until those furnished by the Bureau of Statistics in 1898, which gave a total valuation of 2,154,188,532 pesos. The present value of the land is believed to be four times as great.

COLOMBIA.

NARIÑO RAILROAD.—The council of ministers has approved the contract formed by the governor of Nariño with the engineer, Daniel C. Wright, to make the surveys and plans for two railroad lines—the Tumaco-Pasto line, and the Pasto-Popayán line. These lines will open the center of the Republic to communication with the Pacific.

ENVELOPE FACTORY.—J. V. Mogollón y Compañía are building a factory and warehouse for the making of envelopes, which they expect to manufacture in sufficient quantities to supply the country.

FRENCH MISSION TO COLOMBIA.—A French Commission is on its way to Columbia to study the eastern region of the country especially in relation to the mineral deposits of this section. The commission is composed of 50 persons, and, aside from the usual equipment, have a moving-picture machine and will publish their studies in book form.

NEW VESSEL.—The launching of the vessel *Junín*, the first of a fleet of river vessels for traffic on the Magdalena, was celebrated at Barranquilla.

COLOMBIAN PROMOTION COMPANY.—In Bogota a company known as the Sociedad Colombiana de Fomento, with a capital of 10,000,000 gold pesos (gold peso par equals \$0.9733), was founded to undertake the development of oil lands and related business.

WIRELESS STATION.—The Colombian Government has made a contract with the Marconi Wireless Telegraph Co. for the building of a wireless station in Arauca of sufficiently high power to communicate with Europe and all other parts of the American Continent.

CUSTOMS REPORT FROM BARRANQUILLA.—During September, 1920, 30 vessels entered the port of Barranquilla with 94,606 pieces of freight, weighing 6,360,343 kilos, worth 5,594,943 pesos. During the same month there were shipped from the port 82,282 pieces of freight, weighing 5,075,543 kilos, worth 2,655,030 pesos.

COSTA RICA.

RAILWAYS.—Among the things recommended by President Acosta for discussion at the extra session of congress, which met on November 30, 1920, was the proposed construction of the Guanacaste Railway. This line will start at the capital and terminate either at Port Culebra or Port Coco. At present San Jose, the capital of the Republic, is connected by rail with the ports of Limon, on the Atlantic, and Puntarenas, on the Pacific. The Costa Rica Railway Co. and the Northern Railway Co. of Costa Rica run from Alajuela through San Jose and Cartago to Port Limon, with branches from Limon to Zent, Limon to Estrella, and Siquires to Guapiles—a total length of 566 kilometers. These lines are operated by the Northern Railway Co. The Pacific Railroad, a Government owned line, runs from San Jose to Puntarenas, with branches to Esparta and Alajuela. This line has a length of 134 kilometers.

NATIONAL HIGHWAYS.—Costa Rica has, approximately, 50 miles of national highways suitable for automobile traffic. The Government has taken steps to improve a number of other public highways, and in 1919 the proceeds of a bond issue of 2,000,000 colones (\$930,000) were used for road improvements.

TELEPHONE LINE.—The Government has ceded to a private concern, for four years, the telephone line which connects the city of San Jose with Coronado canton.

CUBA.

STEAMSHIP LINE.—The department of agriculture, commerce, and labor of Cuba is considering a plan proposed by the ex-President of Colombia, Señor Rafael Reyes, for the establishment of a steamship line between Europe, New York, and Spanish America. The itiner-

ary planned for this line is as follows: The ships will sail from some European port (not yet chosen) to Habana, stopping at New York. From Habana they will continue through the Panama Canal on to the Pacific, stopping at Puerto Colombia, Cartagena, and Colon; then to Buenaventura which is about 50 kilometers distant from the city of Sofia and 130 from Cali by the Pacific railroad. From Buenaventura the route continues to Guayaquil, Callao, Antofagasta, and Valparaiso.

AIR SHIP SERVICE.—The secretary of the treasury has decided that the aircraft of the air-passenger and air-mail service companies already established in Cuba may be considered as merchant marine, providing their pilots fulfill the same conditions as ships' captains; that is, the presentation of the roll of the crews, manifest of the cargo, and the list of passengers in proper form, also fulfilling the other conditions of the customs governing navigation and the shipment of merchandise.

SPANISH IMMIGRANTS.—During the first six months of 1920 fully 39,745 Spanish immigrants arrived in Cuba. According to the figures of the superior council of immigration of Spain, 59,593 persons emigrated from the country during the six months mentioned.

SUGAR CROP.—The official figures on sugar production of the last crop are as follows: Province of Pinar del Río, 108,403 tons, as against 102,146 in 1918-19; the Province of Habana, 361,977 tons, as against 389,864 in 1918-19; Province of Matanzas, 633,187 tons, as against 743,028 in 1918-19; Province of Santa Clara, 948,273 tons, 979,198 in 1918; Province of Camaguey, 826,303 tons, as against 785,209 in 1918-19; and the Province of Santiago de Cuba, 858,282 tons, against 1,010,292 in 1918-19. The total crop was 3,736,425 tons of sugar, as against 4,009,737 tons in 1918-19, or a decrease of 273,312 tons.

TRADE WITH ENGLAND.—During the first six months of 1920 the total value of Cuba's trade with Great Britain was \$117,736,841, which, compared with the \$48,927,489 for the corresponding period of the previous year, shows an increase of \$68,809,352. The trade was distributed as follows: Exports to England, \$105,294,149, against \$44,870,429 for the corresponding period of 1919; imports from England, \$12,442,692 pesos, against \$4,057,060 in like period of 1919.

DOMINICAN REPUBLIC.

HOTEL IN SANTIAGO.—A three-story hotel was recently built and opened in Santiago.

NAVARRETE BRIDGE.—The cement bridge at Navarrete is completed and has been opened to the public. The opening of this bridge completes the Monte Christy highway.

PROHIBITION OF THE IMPORTATION OF RICE.—The Government of the Republic prohibited the importation of rice from September 27

to December 31, 1920. This measure was taken upon the suggestion of the chamber of commerce and parties interested in view of the large quantity of rice in the country.

CUSTOMS RECEIPTS.—The customs of Santo Domingo during the months of September and October collected the sum of \$343,195.

ECUADOR.

STEAMSHIP SERVICE.—The Government of Ecuador has contracted with the Peruvian Steamship & Dock Co. of Callao to make Guayaquil a port of call on the southbound trips of its vessels which ply between Colon and Callao, and as soon as circumstances justify to initiate a direct freight and passenger service between Guayaquil and Colon, extending same later to the United States and Europe. The steamship company agrees to transport the Ecuadorean mails free of charge, and to make a reduction of 25 per cent from the tariff charges on the freight and passenger traffic of the Ecuadorean Government. The Government of Ecuador agrees to admit the vessels of the steamship company to its ports free of charges during the life of the contract. Either of the parties to the agreement may terminate same by giving six months' notice in advance of its intention so to do. Arrangements have been made for both northbound and southbound vessels of the South American Steamship Co., now plying between Panama and Chilean ports, to stop at Guayaquil.

PROPOSED PUBLIC WORKS.—Italian contractors recently opened negotiations with the Government of Ecuador for the construction of a wharf and customhouse at Guayaquil, and with the State authorities concerning the building of a Government palace in said city.

EXPOSITIONS IN QUITO.—A stock fair was held in Quito in October last, and an industrial exposition in November, 1920.

QUITO WATERWORKS.—President Tamayo has promulgated a law authorizing the payment of 286,500 sucres (sucre = \$0.4867) to the municipality of Quito for the repair or reconstruction of the Quito waterworks, the surplus, if any, to go into the treasury of the municipality.

GUATEMALA.

CHANGE IN IMPORT DUTIES.—An executive decree of November 10, 1920, provides that on and after January 1, 1921, agricultural implements shall be admitted free. A general increase is made, however, on other imported articles. Most of the duties are made payable 50 per cent in Guatemalan currency and 50 per cent in American gold. Some articles are payable 75 per cent in American gold, and in a few instances the entire duty is payable in American gold.

EXPORT DUTY ON COFFEE.—A recent executive decree provides that, beginning with November 24, 1920, the export duty per quintal

on cleaned coffee, or its equivalent in parchment coffee, shall be \$1 American gold.

IMPORTS AND EXPORTS OF LIVE STOCK.—An executive decree has been promulgated authorizing the reimbursement by the Government of transportation expenses, from the place of unloading to the point of final destination, to importers of cattle, hogs, sheep, and horses registered in the country of origin and imported for breeding purposes. Exports of beef steers, weighing not less than 800 pounds, may be made upon payment of \$2 American gold per head. The export or slaughtering of cows is prohibited.

JUTE SACK AND ROPE FACTORY.—Lic. Felipe Luna E. has petitioned the Government for an exclusive concession for a period of 10 years for the installation and operation of a factory for the manufacture of jute sacks and rope.

PROPOSED CHAMBER OF COMMERCE.—Tentative steps have been taken and by-laws prepared for the establishment of a chamber of commerce in Guatemala City.

COMMERCIAL DELEGATION TO MEXICO.—A group of Guatemalan merchants recently visited the Republic of Mexico with the object of promoting trade between the two countries.

INTERNATIONAL TELEGRAPH LINE.—In November, 1920, the international telegraph line between the Republics of Guatemala and Mexico was opened to service.

HAITI.

AMERICAN COMMERCIAL COMPANY.—A recent consular report states that an American corporation has been organized in Port au Prince for the purpose of engaging in commercial and industrial pursuits in the Republic of Haiti. The decree authorizing the establishment of the corporation gives it authority to engage in an export and import business and to carry on a commission business as broker and agent. It may also transport passengers and freight by land or water, and construct, purchase, and sell railroads, telegraph and telephone lines, factories, etc. The corporation is also authorized to engage in the banking business.

HONDURAS.

CULTIVATION OF TURKISH TOBACCO.—The owner of a cigarette factory in the Republic secured some time ago Turkish tobacco seed, which he planted and from which he obtained excellent results. For this reason it is proposed now to cultivate Turkish tobacco in Honduras on a more extensive scale and to import for that purpose considerable quantities of seed, inasmuch as, notwithstanding the change of location, it has been found that this tobacco does not lose its flavor when grown in Honduras.

NEW STEAMER.—Recently the *Nicarao*, a new steamer which the Cuyamel Fruit Co. has acquired to ply between Honduras and the

United States, arrived at Puerto Cortes. This vessel has a displacement of 1,400 tons and is modernly equipped.

MEXICO.

OUTPUT OF METALS.—The Mexican Government has prepared statistics showing the average monthly output of gold to be 1,965 ounces, and of silver, 170,824 ounces.

MINING CLAIMS.—There are 60,569 denounced mining claims in the Republic. Of this number 3,867 are being worked and taxes are being paid on 30,990 claims.

DUTCH STEAMERS.—The Holland Lloyd Steamship Co. proposes to inaugurate a new service between Mexico, Cuba, and European ports with sailings every three weeks.

IRRIGATION PROJECT.—The governor of the State of Sonora has submitted to the legislature of that Commonwealth a plan for reclaiming and irrigating lands along the Sonora River. The estimated cost of the project is \$5,000,000.

PROPOSED PORT IMPROVEMENTS.—The department of public Works has approved a plan for the improvement of the port of Manzanillo. The project among other things comprises the construction of a breakwater, the building of two piers and a wharf, the dredging of the harbor to a minimum depth of 30 feet, the installation of a pumping station, the sewerage of the city of Manzanillo, and the paving of the streets.

GOVERNMENT WAREHOUSES.—The secretary of the treasury has ordered the construction of government warehouses at the ports of Tampico and Vera Cruz.

RAILWAY.—The Kansas City, Mexico & Orient Railway Co. has been authorized by the Mexican Government to build a railway about 60 kilometers in length from a point opposite Del Rio, Tex., to Allende, in the State of Coahuila.

TELEGRAPH.—The telegraph line between the City of Mexico and the capital of the Republic of Guatemala was opened to public traffic on November 16, 1920.

PROPOSED INTERCHANGE OF FREIGHT CARS.—The Gulf Coast Line has taken steps to arrange for an interchange of freight cars with Mexican railways with the object of avoiding the delay and expense of unloading and loading at the border of cars used in international traffic.

RUSSIAN IMMIGRANTS.—The department of agriculture is negotiating with the representatives of 60,000 Russians who propose emigrating to Mexico to engage in agricultural pursuits.

STREET PAVING.—A contract has been granted to the National Construction Co. to pave and repair the streets of the City of Mexico within the next few months at a cost of 1,000,000 pesos.

IRRIGATION.—A company has been formed to obtain a concession for using the waters of the Fuerte River, in the State of Sinaloa, for irrigation and for the production of light and power.

LOCOMOTIVES.—During the latter part of the past year 25 locomotives were received at Laredo for the use of the national railways.

PRODUCTION OF FOODSTUFFS.—The American consul estimates that the Chihuahua consular district in 1920 will produce 900,000 bushels of corn, 250,000 bushels of beans, and 400,000 bushels of wheat.

EXPERIMENTAL COTTON GROWING.—During the past year 800 acres of land near the city of Monterrey, State of Nuevo Leon, were utilized in experimental cotton growing. Most of the cotton planted was of the short-staple variety. The work was done under the supervision of an agricultural expert from the United States.

IRRIGATION DAM.—A company has been organized to build a large dam at Rio Verde, about 40 miles from the city of San Luis Potosi, the water to be used for irrigation.

NICARAGUA.

FORESTAL LAW.—The Government has decreed a law governing the use of the forests of the country. Among other conditions it will now be necessary for all logs cut in the Republic for exportation to have engraved in the ends of the trunks the marks of the exporter and the cutter. Exporters must provide the employees in charge of measuring the wood to be shipped with the documents necessary to make the work legitimate. It is forbidden to throw into the streams wood which is discarded on account of defects. The law was decreed on September 7, 1920.

RAILROAD TO THE ATLANTIC.—Several engineers have arrived in Bluefields to make the preliminary surveys for the building of the railroad which is to unite the Atlantic littoral with the towns of the interior of the Republic.

PANAMA.

BUILDING IMPROVEMENTS AT COLON AND CRISTOBAL.—A cracker factory was recently erected in Colon at a cost of \$50,000, and two of the concrete hotel buildings in that city added a third story. The repair shop and supply house at the pier in Cristobal are nearing completion, and the three-story concrete office building now being constructed by a British shipping company in that port will soon be ready for use. The two bonded warehouses established in Colon in 1919, according to a report from the American consul, are doing a large business, and the owners have arranged to build two more warehouses to meet the increased development of trade.

Agriculture.—In 1919 the United Fruit Co. had under cultivation in the Province of Bocas del Toro 20,176 acres of banana land, as

compared with 25,800 in 1918. The decrease was due to a disease which up to the present time it has been impossible to control. Acreage under cultivation in cacao greatly increased during the year referred to, and is now estimated at 15,787 acres, on which are planted some 6,000,000 cacao plants. The fruit company also had 1,015 acres, or about 50,000 trees, in coconut groves. An American-owned company at Cocoplum, about 100 miles west of Colon, has a plantation of 100,000 coconut trees. Another plantation near Colon, in which Americans are largely interested, has 53,000 coconut trees. An American company has begun to plant 250,000 coconut trees at Mandigo Bay, about 70 miles east of Colon.

IMPORTS IN 1919.—In 1919 the imports into the Republic of Panama were valued at \$11,406,880, as compared with \$7,821,660 in 1918. The proportion of this commerce with the United States in 1919 was 82 per cent.

PARAGUAY.

FOREIGN COMMERCE.—The foreign commerce of Paraguay in June, 1920, amounted to 1,228,980 pesos, Argentine gold (peso = \$0.9648), as compared with 2,145,699 pesos during the same month of 1919. For the first six months of 1920, according to invoices certified at the American consulate in Asuncion, products to the value of \$825,342 were shipped to the United States, among which were quebracho extract, \$721,082; hides, \$54,390; and oil of petitgrain, \$44,301.

ELECTRIC INSTALLATIONS.—Paraguay has 27 towns of more than 10,000 inhabitants, only three of which—namely, Asuncion, Villarrica, and Concepcion—have electric installations.

COTTON, WHEAT, AND GRAPE CULTIVATION.—La Tribuna, of Asuncion, states that the cultivation of cotton is increasing in the Republic to such an extent that in the near future this fiber will probably become one of the largest items of national export. Wheat is also being grown with good results, and the cultivation of grapes of foreign varieties for the manufacture of wine is proving a success in the Department of San Joaquin.

CATTLE.—Official estimates show there are now approximately 1,000,000 head of cattle in Paraguay, and that the average weight per head is from 850 to 1,000 pounds. There are two large packing plants in the Republic—one near Port Pinasco, and the other at San Antonio in the vicinity of Asuncion.

STEAMSHIP SERVICE.—The International Products Co. has purchased two steamers for use in freight and passenger traffic between Asuncion and Buenos Aires. The Urugayan Navigation Co. will also operate a line of steamers between Montevideo, Buenos Aires, and Asuncion.

PARAGUAYAN TEA.—Yerba mate or Paraguayan tea is being successfully cultivated in the New Australia Colony. The Government

is cooperating with agriculturists in this and other colonies in the cultivation of this plant.

IMPORTATION OF WHEAT.—The Paraguayan Government has arranged with the Argentine Government for the importation of 2,000 tons of Argentine wheat. This wheat will be ground in Asuncion and sold to consumers at the lowest possible price.

CULTIVATION OF TEA.—The Agricultural Bank of Asuncion reports that Chinese tea-producing plants are being cultivated in the Department of Villarrica. The varieties which it is desired to acclimatize in Paraguay are the Bohea and Viridis.

PERU.

NATIONAL EXPOSITION BUILDING.—The Peruvian Government has granted a concession for the construction in Lima of a building for the housing and display of international exhibits. The exhibits of foreign manufactures in this building will be opened to the public on July 28, 1921, in connection with the celebration of the Peruvian centennial. Articles entering the Republic for these exhibits do not pay duty if reexported, but if sold in the country then they are subject to the regular import duties.

NEW CUSTOMS TARIFF.—The new customs tariff became operative on October 15, 1920.

IMPORTANT HIGHWAY.—Private parties are building an important highway to connect Santiago de Chuco with the plantation railroad now under construction from Malabrigo up to the Chicama Valley. This road will be an outlet for coal, copper, and silver mines in that vicinity.

APARTMENTS AND OFFICE BUILDINGS.—An American company is reported to have secured contracts for the erection in Lima of apartment and office buildings of reenforced concrete at an approximate cost of \$4,000,000.

NEW STEAMSHIP LINE.—A new steamship line has been established by the Pacific Steam Navigation Co. between Rotterdam and the west coast of South America. The new line will serve Holland, the Rhine Valley, Basel, and Zurich.

LIMA TO LA PUNTA TRAMWAY.—A 60-year concession has been granted by the Peruvian Government for the construction and operation of a standard gauge electric tramway from Lima to La Punta, a bathing resort 7 miles distant from the national capital. The new company, whose stockholders are Peruvians, has been capitalized at approximately \$1,000,000.

AGRICULTURAL STATION.—An agricultural experiment station has been established in the Department of Loreto. The flourishing city of Iquitos is in this province. The station proposes to give special attention to the development of the cotton industry in this section of the Republic.

RAILWAY CONSTRUCTION.—The Oroya Railway is being extended to Ucayali for the purpose of providing freight and passenger transportation between the east and west side of the Andes, as well as to establish a freight communication from the Amazon base to the west coast. A narrow-gauge road is also being built from Ramal station on the Southern Railway to the Siguas Valley. This road will serve as an outlet to the sugar and cotton plantations in the Majes, Vitor, and Siguas Valleys. Another railway in which the Government is greatly interested is the line from Huancayo to Ayacucho, which is to be extended through Abancay to Cuzco.

SALVADOR.

PROHIBITED IMPORTS.—The Government of Salvador has prohibited the importation of the following articles on and after January 1, 1921: Passenger automobiles, bicycles, motorcycles, shoes, wooden and wicker furniture, trimmed hats, silk manufactures, tobacco, beer, champagne, and sparkling wines. Unless the goods mentioned are on board ship before January 1, 1921, they will not be admitted into the Republic. The object of the prohibition is to relieve the financial situation.

TRACTOR DEMONSTRATION.—A demonstration of the operation of American tractors on sale in Salvador was recently held in the presence of the President of the Republic, a group of agriculturists, and other interested persons.

PROPOSED PORT IMPROVEMENTS.—The Government is negotiating for the purchase of dredges in Panama and Salina Cruz for use in widening and deepening the port of Triunfo. It is also planned to build a macadamized highway from Santiago de Maria to said port.

ELECTRIC STREET CARS.—The electric tramway between the city of San Salvador and Santa Ana recently changed from mule to electric traction, and is now operating six electric cars.

PROPOSED CLUB BUILDING.—The International Club has approved plans for the construction of a building in the city of San Salvador at an estimated cost of \$72,000, American gold.

AUTOMOBILE ROAD.—Arrangements have been made to build an automobile road from the city of San Salvador, via Santa Ana, to Guatemala City.

TELEGRAPH LINE.—A double telegraph line is being installed between the city of San Salvador and Guatemala City.

PETROLEUM.—The Government has granted permission to Eserich & Barahona to work a petroleum deposit in the Department of Union.

URUGUAY.

SULPHURIC ACID LABORATORY.—There was installed recently in Montevideo, as an annex to the chemical institute of that city, a factory equipped with the most modern apparatus for the produc-

tion of sulphuric acid. The output of this factory can be sold at much less than the imported article.

NAVIGATION COMPANY.—The Uruguayan Navigation Co. has been organized in Montevideo to purchase some of the vessels and material of the Mihanovich Co., which has discontinued operating its line between Montevideo and Buenos Aires.

IMPORTS OF SUGAR.—From January 1 to October 1, 1920, the imports of sugar aggregated 19,848 metric tons of raw sugar, and 1,744 tons of refined sugar.

EXPORTS OF WOOL.—The exports of wool from January 1 to September 1, 1920, totaled 26,279 metric tons, valued at 25,583,309 pesos (peso = \$1.0342 at par), as compared with 40,975 metric tons, valued at 40,431,685 pesos, during the same period of 1919.

PROPOSED MUNICIPAL PACKING PLANT.—Preliminary steps have been taken looking to the establishment in Montevideo of a municipal packing plant.

MANUFACTURE OF SUPERPHOSPHATES.—The administrative council is considering a plan for the establishment of a factory for the manufacture of superphosphates for use as fertilizer. Large quantities of bones, which are now being exported, could be converted into phosphates.

PROPOSED RAILWAY.—Plans have been submitted to the administrative council for the construction of a railway from Montevideo to Colonia and the establishment of a ferryboat service to Argentina.

SEEDS.—The sum of 50,000 pesos has been made available for use in the experimental cultivation of selected seeds, especially wheat, corn, and linseed.

SULPHATE OF COPPER.—A factory, with a daily capacity of 2 tons of sulphate of copper, has been installed in Montevideo. The present consumption of this substance in the Republic is about 500 tons. It is proposed to export the excess production to Argentina and Brazil, where there is a strong demand for same.

VENEZUELA.

DECREE GOVERNING IMPORT MANIFESTS.—The President has published a decree ruling that in manifests of importation prescribed by article 147 of the customs law, consignors must convert into terms of bolivars values of merchandise expressed in the consular invoice in the money of the country from which shipment is made. This conversion will be made at the rate of exchange in Caracas on the day of the arrival of the vessel, in accordance with the quotations furnished to the customs by order of the ministry of the treasury. The payment of charges, which must be made upon the basis of the declared value of the imported merchandise, will be paid upon this valuation in bolivars.

EXPOSITION IN ZULIA.—In December and January the fourth regional exposition of Zulia was held in Maracaibo, with very satisfactory results. The exposition had sections for agriculture, industry, and stock breeding and was attended by ranch owners and agriculturists both native and foreign.

PETROLEUM.—The Caribbean Petroleum Co., developing petroleum deposits in the State of Zulia, has in the past year produced 45,915 metric tons of petroleum, of which 2,168 metric tons were exported; 43,061 tons were refined in the San Lorenzo refinery, and 686 tons remaining were used as fuel in the plant. For the year the company paid in taxes to the nation a total of 1,184,511.78 bolivars.

COFFEE SITUATION.—Recent investigations have shown that at the end of August, 1920, there were approximately 400,000 sacks of 132 pounds each in the warehouses of the Republic, distributed as follows: Maracaibo, 200,000 sacks; Caracas, 40,000 sacks; and the remainder stored in Puerto Cabello, Carúpano and Valencia. This coffee represents the part of the crop of 1919 not exported. The total crop for the year was 1,020,000 sacks.



ECONOMIC AND FINANCIAL AFFAIRS

ARGENTINA.

LOAN TO ITALY.—It is reported that the Government of the Republic is considering a loan to Italy from 100,000,000 to 120,000,000 pesos gold (gold peso par equals \$0.9648). The loan will consist not of money, but cereals, which Argentina will export to Italy.

AGRICULTURAL CHATTEL MORTGAGES.—In the period from January to April, inclusive, 1920, the agricultural and live-stock registrar's office registered 5,748 agricultural chattel mortgages at a total value of 110,713,625 pesos. Since the establishment of the registrar's office in December, 1914, 83,878 such mortgages have been registered, showing a total value of 850,003,852 pesos.

CENTRAL NORTH ARGENTINE RAILROAD, the principal Government railroad line, during the first nine months of 1920 received from freights and fares 22,324,824 pesos gold, or an increase of 3,000,000 pesos over the receipt of the corresponding period of 1919.

RAILROAD CAPITAL.—The Government is considering the fixation of the capital of railroad companies operating in the territory of the Republic. The latest reports on the capital of the various rail-

roads are the sums declared by the companies in accordance with the balances shown on June 30, 1919, which are:

Railroad.	Principal line.	Subsidiary companies.	Total capital.
Central Argentino.....	287,806,692.39		287,806,692.39
Sur de Buenos Aires.....	248,183,058.93	13,133,907.46	261,315,966.09
Oeste de Buenos Aires.....	145,133,214.95		145,133,214.95
Buenos Aires-Pacífico.....	119,592,201.10	5,614,977.40	125,207,178.50
Gran Oeste Argentino.....	63,510,059.53	564,433.74	64,074,493.37
Bahía Blanca y Noreste.....	50,899,059.58	3,336,129.93	54,235,725.48
Villa María-Rufino.....	5,753,977.77		5,753,977.77
Trasandino Argentino.....	11,782,283.52		11,782,283.52
Provincia de Santa Fe.....	54,369,636.53		54,369,636.53
Com. G. Province, Buenos Aires.....	45,618,351.28	128,241.60	45,746,592.88
Central Córdoba.....	100,906,341.17		100,906,341.17
Central de Buenos Aires.....	16,288,408.04		16,288,408.04
Rosario-Puerto Belgrano.....	30,659,619.86		30,659,619.86
Tranvía a Vapor-Rafaela.....	473,655.20		473,655.20
De Entre Ríos.....	40,978,881.19		40,978,881.19
Nordeste Argentino.....	31,615,747.15		31,615,747.15
Buenos Aires, Ensenada y C. Sur.....	4,569,260.60		4,569,260.60
Central del Chubut.....	1,701,122.24		1,701,122.24

CUSTOMS RECEIPTS.—From January to September, inclusive, 1920, the Buenos Aires customs collected 171,919,790 pesos, paper. During like period of 1919 the revenue was 112,969,490 pesos. Of the customs revenue for September 3,374,142 pesos were on exports, 18,124,309 pesos on imports, and 1,316,020 port fees, making a total of 22,814,471 pesos.

ISSUE OF BONDS OF THE MUNICIPAL DEBT.—The municipality of Buenos Aires has decided to issue bonds to the extent of 50,000,000 pesos, paper, with 7 per cent interest and 10 per cent annual fixed amortization. The product of the issue will be used for the withdrawal of the certificates of the floating municipal debt issued in accordance with the ordinance of December 21, 1915, and to the reimbursement of general revenues of the sums appropriated for the payment of Kleinwort, Son & Co., short-time loans, and those with Otto Bemberg & Co. and C. J. Hambro & Sons.

BUDGET OF EXPENSES FOR 1921.—The committee of the chamber of deputies in charge of the budget has defined the expenditures of the budget for 1921 as follows: Congress, 5,718,760 pesos; interior, 58,112,306 pesos; foreign relations and religion, 5,065,892 pesos; treasury, 18,308,080 pesos; public debt, 125,236,485 pesos; justice and public instruction, 95,104,389 pesos; war, 45,517,797 pesos; navy, 37,544,717 pesos; agriculture, 10,593,380 pesos; public works, 14,368,835 pesos; pensions, bonuses, and retirements, 17,641,285 pesos; and special public enterprises, 50,241,772 pesos, or a total of 483,453,698 pesos. In the budget 10,450,000 pesos in bonds is set aside for the special public enterprises. The budget for 1920 was 459,171,586 pesos, or 24,282,112 pesos less than that of the year 1921.

BRAZIL.

BUDGET.—The budget for 1921 submitted by the finance committee to the house of representatives shows estimated receipts of 106,039,500

milreis, gold, and 551,184,000 milreis, paper, and estimated expenditures of 75,615,984 milreis, gold, and 748,988,968 milreis, paper. (Milreis, gold = \$0.5462; milreis, paper = at present exchange about \$0.17.)

LOAN.—The Government of the State of Bahia has negotiated with the Economic Bank of the City of Bahia a loan of 1,000,000 milreis, part of the proceeds of which is to be used in the construction of a highway from Bahia to Feira de Sant' Anna.

ISSUE OF PAPER MONEY.—Cable reports state that the Brazilian congress has passed the bill authorizing the issuance of paper money of a value of, approximately, \$8,000,000, with the object of assisting national production through loans to producing States.

BANK.—The Southern Bank of Brazil has established a branch in the city of Blumenau, State of Santa Catharina.

IMPROVEMENTS.—A budget has been prepared showing that the estimated cost of public improvements in the city of Livramento, State of Rio Grande do Sul, including waterworks, sewers, installations, etc., amounts to 1,879,651 milreis.

BANKS.—The Agricultural Mortgage Bank of Bello Horizonte, State of Minas Geraes, has arranged to open an agency in the city of Juiz de Fora.

CHILE.

ISSUE OF BONDS.—The President has been authorized by law to issue bonds to the extent of 2,831,000 pesos (gold peso par equals \$0.3650) for building canals connecting with the canal of Laja. The bonds will be issued in accordance with laws 2953 of December 9, 1914, and 3117 of September 4, 1916.

PUBLIC FINANCES.—From a report of the minister of the treasury the following figures concerning the public revenues up to July 31 are taken: In the 1920 budget the national revenues were estimated at 86,607,000 pesos, gold, and 164,238,810 pesos, currency. The collections up to July 31, 1920, amounted 61,964,917 pesos, gold, and 83,413,518 pesos, currency. Adding these figure to the estimates of collections for the next five months of the year gives a total of approximately 111,551,167 pesos, gold, and 146,144,603 pesos, currency. The total expenditure of the year, including the ordinary budget, the laws of 1919, whose balances should be turned into the expenditures of 1920, and the laws passed in 1920, are fixed at 68,957,458 pesos, gold, and 337,472,120 pesos, currency. The probable deficit for 1920 is calculated at 89,518,841 pesos, currency.

NEW COMPANIES.—The Government has authorized the formation of the following new companies: Compañía de Seguros La Metropolitana, with a capital of 3,000,000 pesos; a stock company, Maestranza Industrial de Maquinarias, capitalized at 700,000 pesos; the Sociedad Ganaderia Río Cisnes (cattle), capitalized at £150,000;

Sociedad Cooperativa Chauffeurs de Chile, capitalized at 100,000 pesos, and the Sociedad Ballenera de Corral, with a capital of 1,561,800 pesos.

COLOMBIA.

GOVERNMENT TAKES OVER RAILROAD.—Congress has passed a law providing for the government ownership of the Santa Marta Railroad. In accordance with this law the Government will take the stock and exercise the rights confirmed by existing laws and by the contract made with the Santa Marta Railroad Co. (Ltd.). The Government is authorized to contract loans necessary to acquire and to operate the property.

BONDS OF THE INTERNAL DEBT.—The Colombian bonds of the internal debt issued in accordance with law No. 23 of 1918 have a State guaranty equivalent to a contract between the Government and the bearer. They were issued in series corresponding to their values, which were 5, 10, 20, 50, and 100 pesos, with an annual interest of 10 per cent. One per cent is amortized annually by the accumulative system. Since December, 1918, issues have been made in different quantities, the total emission being the sum of 8,000,000 pesos permitted by the law. The bond of the internal debt is considered one of the best investments of its kind. When it first began to circulate its market price was 60 per cent and at present it is selling at 73 per cent, and tending to rise.

ISSUE OF NICKEL AND SILVER COINS.—Owing to the scarcity of nickel and silver coins the Junta de Conversión has ordered the mint of Bogota to coin money of these metals. In addition, the Government has contracted for the minting of 500,000 pesos worth of nickel 1 and 2 centavo pieces at the Denver mint, and 500,000 pesos worth of 50 centavo pieces at the Philadelphia mint in the United States.

MONETARY CIRCULATION.—On June 30, 1920, the monetary circulation in the Republic was as follows: Colombian gold coins, 23,948,492 pesos; silver coins, 6,555,293 pesos; nickel coins, 1,308,088 pesos; gold certificates, 10,155,931 pesos; bills of old issues not presented for exchange, 214,606 pesos; giving a total of 42,182,410 pesos in circulation. Aside from this sum in legal tender, there were on June 30 in circulation the following documents of public and private credit: Treasury certificates, 3,536,887 pesos; bank certificates, 2,057,986 pesos; mortgage certificates, 4,728,600 pesos; certificates of the mint of Medellin, 2,354,725 pesos; and bonds and national notes, 7,465,253 pesos; or a total of 20,143,451 pesos, which, added to the legal specie, gives a general total of 62,325,862 pesos. The circulation of foreign bills and coins in the Republic is unknown, but on the date previously given in Bogota there were 1,189,433 foreign bills and coins in circulation.

COSTA RICA.

INTERNAL DEBT.—The American consul in San Jose, Costa Rica, states that the internal debt of the Republic on December 31, 1918, was 25,460,194 colones (\$11,838,990), and that on September 2, 1919, it had increased to 35,684,091 colones (\$16,593,102). During the last four months of 1919 the increase was 140,475 colones (\$65,320), of which the equivalent of 164,500 francs was set apart for the French loan.

REVENUES.—The revenues of the Government of Costa Rica in 1919 were 11,886,311 colones (colon = \$0.4653), as compared with 7,951,856 colones in 1918. Government expenditures in 1919 were 9,341,470 colones (\$4,343,783) greater than the receipts.

CUBA.

PAYMENT OF OVERDUE DEBTS.—The Government has decided to liquidate the overdue debts owed various companies and private individuals for the general transportation of the State up to 1918-19. The total of these balances is \$301,769, distributed as follows: United Railroads of Habana, \$229,894; Railroad of the West, \$17,888; Cuban Central Railways, \$22,604; Habana Central Railroad, \$7,183; and to other companies and individuals, \$24,199.

SUBSIDY TO A RAILROAD.—A presidential decree has subsidized to the extent of \$12,000 the Oriente Railroad Co. of Cuba for each kilometer which it constructs on the Manzanillo-Niquero line in the Province of Santiago de Cuba.

PUBLIC REVENUES.—From July 1 to September 30, 1920, the total value of the public revenues amounted to \$25,333,497, collected by months, as follows: July, \$8,709,134; August, \$8,311,882; and in September, \$8,312,481. The two principal revenues were customs, \$16,557,636, and contributions and taxes, \$4,249,461.

DOMINICAN REPUBLIC.

FUNDS FOR THE SANTO DOMINGO-MONTE CRISTY HIGHWAY.—By executive order No. 558 the Government of Santo Domingo has appropriated the sum of \$250,000 on deposit with the Guaranty Trust Co. of New York for the completion of the highway between Santo Domingo and Monte Cristy.

PUBLIC DEBT.—The state of the public debt on July 31, 1920, was as follows: 1908 emission of \$20,000,000 maturing in 1950, bonds issued to full amount. Bonds redeemed and kept in the amortization fund, \$9,174,750; cash in the amortization fund on July 31, 1920, \$618,222; total, \$9,792,972; balance, \$10,207,028. Emission of bonds of 1918 maturing in 1938, bonds issued, \$4,161,300; bonds redeemed to July 31, 1920, \$1,113,200; total outstanding, \$3,048,100; cash in the amortization fund on July 31, 1920, \$154,342; balance, \$2,893,758.

CLAIMS COMMISSION.—The following report on the work of the claims commission was published by the Dominican press. The number of claims presented was 9,038; the sum claimed was \$16,960,513.48; the sum adjudged and awarded was \$4,292,343.52, or \$12,668,169.96 less than that claimed. The claims granted or partially granted numbered 6,287; those not granted, 2,610; those out of jurisdiction 93, and 48 annulled.

NEW VESSEL.—The department of promotion and communications of the Republic has lately purchased for \$85,000 a new vessel for the lighthouse service.

GUATEMALA.

FINANCIAL COMMISSION.—The President of Guatemala has appointed as the Guatemalan members of the International High Financial Commission, Señor Don Julio Samayoa, Lic. Don José Zelaya, Lic. Don Marcial Prem, Lic. Don Guillermo Rodriguez, Lic. Don Carlos Salazar, Lic. Don Salvador Falla, Lic. Don Marciel García Salas, Don José del Valle, and Don Diego Polanco.

ESTIMATED CURRENCY CIRCULATION.—The Guatemalan delegation to the International Financial Conference at Brussels estimates that the currency circulation in Guatemala is from 150,000,000 to 200,000,000 pesos. As import duties are partly payable in gold, and there is an export tax of \$1, American gold, per quintal on coffee, the Government is able without difficulty to pay the interest on its foreign debt and to meet its international obligations.

LOAN TO GENERAL HOSPITAL.—The general hospital in Guatemala City has been authorized to contract a loan of \$30,000, American gold, the proceeds to be used in improving and in operating the institution.

MEXICO.

NATIONAL THEATER.—Mexican capitalists have offered to lend the Government 10,000,000 pesos for completing the national theater, the erection of which was begun under the administration of President Diaz. It is estimated that two years would be required in which to complete the work.

CONSULAR FEES.—In October, 1920, the fees paid to Mexican consuls aggregated 3,000,000 pesos. In 1919 these fees averaged monthly 1,000,000 pesos. The increase is due to increased commercial traffic and the large number of passports viséed.

PARAGUAY.

NEW PALACE OF JUSTICE.—Congress has passed a law authorizing the erection of a palace of justice in Asuncion. The proceeds of an issue of bonds will be used in part payment of the construction of the proposed building.

ISSUE OF CURRENCY.—The congress of Paraguay has passed a bill recommended by the President of the Republic authorizing an issue

of 30,000,000 pesos, currency, to be used in making short-time loans to banks for the purpose of easing the financial stringency.

MORATORIUM.—On November 11, 1920, congress passed a law proclaiming a 60-day provisional moratorium on all civil commercial banking obligations.

PERU.

WORKMEN'S HOUSE.—The President has promulgated a law authorizing an issue of bonds to the amount of 300,000 Peruvian pounds, the proceeds of which are to be used in the construction of workmen's houses in Lima and Callao. The municipality of Callao has likewise been authorized to contract a loan of 45,000 Peruvian pounds as an additional sum to be used in Callao in the construction of workmen's houses.



CUBA.

TAX ON EARNINGS.—In accordance with a law of July 1, 1920, a tax of 4 per cent is imposed on the earnings of every company, establishment, or mercantile concern doing business in the Republic whose capital exceeds \$10,000 or whose earnings are in excess of \$2,000. This tax applies to companies, etc., which have their domiciles abroad, in so far as the earnings of their business and operations in Cuba are concerned. The tax does not apply to banks of issue and discount, stock companies, common law associations, industrial and mercantile associations, and to private parties engaged in the cultivation of sugar cane and the exploitation of sugar. These enterprises will continue to pay 8 per cent on their earnings. Banks and bankers in general, railways in the public service, and navigation companies will continue to pay 6 per cent on their earnings. Insurance companies will pay only 2.5 per cent on their earnings, and mining properties 6 per cent, in addition to 20 centavos on each hectare of land which has been denounced whether said land is under exploitation or not.

PERU.

DECREE PROTECTING VICUÑAS.—President Leguia has issued a decree requiring that the old law of July 5, 1825, prohibiting the hunting and destruction of vicuñas, be strictly enforced. A translation of this decree, which was promulgated on October 8, 1920, is as follows:

1. The manufacture of fabrics of vicuña, the sale of vicuña skins, and of articles made of vicuña wool are prohibited.

2. Persons apprehended trading in the prohibited objects, in accordance with the foregoing article shall suffer, in addition to the confiscation of the goods, a fine of one hundred times the value of the article seized.

3. The present possessors of vicuña skins or of articles made of vicuña wool are required to deliver them within three months, which time shall not be extended, to the officials appointed by the department of public works, in order that such articles may be marked, sealed, and registered.

4. Upon the expiration of the time fixed no article not duly registered shall be transferred, under penalty of confiscation, and, even though registered, notice of its transfer must be given to the department of fomento (public works).

5. The ministers of public works, government, and finance are charged with the enforcement of this decree, and shall take such steps as may be necessary to make it effective.



PUBLIC INSTRUCTION AND EDUCATION

ARGENTINA.

FIRST CONGRESS OF INDUSTRIAL STUDENTS.—The first congress of industrial students was held in Buenos Aires in October, 1920. In this congress action was taken in regard to the recognition of degrees conferred by the various industrial schools, scholarships abroad for honor students, and other related matters.

DISTRIBUTION OF ARGENTINE LITERARY AND SCIENTIFIC WORK ABROAD.—The Argentine consul in Honduras has directed a communication to the ministry of foreign affairs, stating that it would be advisable for Argentine scientific and literary institutions to send to the consulate general in Honduras and the national library of that country all the catalogues and books of Argentine authors in order to open a new market for Argentine intellectual production. The consul stated that there was interest in Honduras for Argentine literary production. The Government has taken up the suggestion.

TEACHING THE ITALIAN LANGUAGE.—The ministry of public instruction has received a request from the Club of Normal Professors of the Italian Language asking that this language be included in the normal, commercial, and other educational institutions where foreign languages are taught.

SCHOOL OF AGRICULTURE AND STOCK RAISING.—In the teachers' school at Corrientes a new course in agriculture, industrial stock raising, and kindred sciences was opened.

OPENING OF SCHOOL AND INCREASE IN TEACHERS.—In the present school budget the opening of 15 superior graded schools is called for in the federal capital, and 1 school for weak children in Patricios Park. It is also proposed to increase the teaching personnel of the

capital by 900 third-class teachers and 100 special teachers. To the federal territories the budget assigns 10 posts for sectional inspectors, 17 visitors, 205 directors of different branches, and 540 teachers, as well as additional administrative personnel in the general inspection department of the territories and the establishment of 55 infant schools. In the provinces 314 master-director posts are created, and posts for 80 teachers and 155 assistant teachers.

BRAZIL.

PRIMARY SCHOOLS.—The governor of the State of Alagoas has issued a decree authorizing the establishment of a number of primary schools in different municipalities of that commonwealth. Bids have also been requested for the construction of a normal-school building at Maceio.

BIOLOGIC INSTITUTE.—The *Diario Oficial* of October 2, 1920, publishes the rules and regulations of the Biologic Institute of Agricultural Defense. This institute has for its object scientific investigations, the prevention and cure of diseases of plants, etc., and furnishing the results obtained by the institute to agriculturists and other interested parties.

NORMAL SCHOOL.—The normal school at Aracaju, State of Sergipe, has received from Europe a valuable consignment of material and supplies for its departments of physics and chemistry.

CHILE.

TO ENCOURAGE COMMERCIAL EDUCATION.—The Chamber of Commerce of Chile, in order to encourage commercial education in the Republic, has decided to give two yearly prizes—one of 1,000 pesos and one of 500 pesos—to the students graduating with the highest honors from the Superior Institute of Commerce.

INDUSTRIAL TRAINING.—The chamber of commerce has decided to transmit to the Government a list of suggestions tending to improve industrial training throughout the country. The principal suggestions were that a law be enacted establishing a general plan of education, including industrial training as a part thereof, and another law to be the regulation of industrial training and creating a board of technical instruction; the classification of industrial training in various branches; the establishment of well-equipped schools for this training; extensive courses of industrial training throughout the country; and the formation of the faculty of teachers.

NAUTICAL SCHOOL FOR PILOTS.—The Maritime League of Chile has requested the Government to found a nautical school of pilots to be maintained by the State in Valparaiso. The league has already prepared the plans for the school. The league has taken a strong interest in the maritime progress of Chile, and thanks to its efforts the School of Mercantile Navigation in Valparaiso was founded about a year ago and is showing very good results.

COLOMBIA.

PUBLIC SCHOOLS.—In 1919 there were in Colombia 5,236 primary schools with an enrollment of 321,696 pupils and an attendance of 266,268; 75 secondary schools with an enrollment of 6,716 pupils and an attendance of 6,056; 24 professional schools with 2,317 matriculates and an attendance of 2,111, and 24 artistic and industrial schools with an enrollment of 1,203 pupils and an attendance of 1,085. During the same year the total number of public and private primary schools was 5,633 with an enrollment of 336,882 pupils and an attendance of 279,717; 278 secondary schools with an enrollment of 22,216 pupils and an attendance of 20,135; 38 professional schools with 3,732 matriculates and an attendance of 3,310, and 40 industrial schools with 1,743 students enrolled and an attendance of 1,528. The total number of public and private schools in operation in the Republic in 1919 was 5,989 with an enrollment of 364,573 pupils and an attendance of 304,690.

COLOMBIAN STUDENTS AT THE CONGRESS OF GUAYAQUIL.—The university delegation from Colombia to the Students' Congress, which took place during the celebration of the centenary of Guayaquil, was very hospitably received in that city. The Ecuadorean Government issued a decree declaring them guests of honor. In one of the sessions of the congress a Colombian delegate, Señor Jorge Cavalier, gave an interesting account of the work done by Colombia in the fight against yellow fever and other tropical diseases. The methods suggested by the Colombian student were unanimously adopted by the congress, and a vote of applause given to the medical students of Colombia and Ecuador who have dedicated their lives to the study and elimination of tropical diseases.

SCHOOL STATISTICS.—The general directorate of public instruction furnished the following figures on public instruction in the department of Atlantico. The present attendance of students in the official colleges and schools of the department is 4,265 boys, and 3,258 girls, or a total of 7,523 students in 99 day schools, 27 night schools, and 4 colleges, or a total of 130 different schools. The school expenditures of the department amount to 99,750 pesos a year.

CUBA.

AGRICULTURAL SCHOOLS IN CUBA.—Under the direction of the secretary of agriculture six model farms have been organized for the better teaching of economic farm processes. Among these processes especial attention is devoted to the conservation of forage in hay making and in conversion into silage. The silo is among the most prominent objects one sees on arriving at any one of the farms. Students are given practice field instruction in the operation of tractors, especially in plowing, and the construction of vermin-

proof chicken houses. Especial attention is given to the utilization of animal manures. The stables, cattle houses, and piggeries are well ventilated, clean, and constructed according to the best modern usage. There are nurseries of ornamental and useful plants. Free seed distribution to farmers is made. In the laboratories the preparation of preserved products, such as tomato paste, dried bananas and yuca, jerked beef and salt pork, is taught. The course of study at these model school farms is at present two years, although it is contemplated increasing the term to three years.

ECUADOR.

SCHOOLS.—During the school year 1919–20 there were 1,664 schools in operation in the Republic, 1,359 of which were Government schools, 168 municipal, and 137 private schools. The total attendance at these schools during the period referred to was 92,512, of which 50,502 were males and 42,010 females. The Government schools had an attendance of 63,395 pupils; that is to say, 35,982 boys and 27,413 girls. The attendance in the municipal schools was 16,055, of which 8,610 were boys and 7,445 girls. The attendance in the private schools was 13,062, consisting of 5,910 boys and 7,152 girls. These schools employed 2,307 teachers, of which 1,002 were males and 1,305 females. The school year in Ecuador is from April 15 to January 15.

NATIONAL ACADEMY OF HISTORY.—President Tamayo has promulgated a decree recognizing as a national academy of history the Ecuadorean Society of American Historical Studies (*Sociedad Ecuatoriana de Estudios Históricos Americanos*) founded in Quito on July 24, 1909, as long as it functions in conformity with its by-laws approved by the President of the Republic on September 21, 1909. The department of public instruction, as soon as the national finances will permit, will organize the national archæologic museum and will place same under the direction of the National Academy of History. The academy has authority to establish in the Provinces such branches as it may deem expedient.

AGRICULTURAL AND INDUSTRIAL SCHOOLS.—The Ecuadorean Labor Congress, which met in Guayaquil in October, 1920, petitioned the national congress to establish practical agricultural schools, traveling agricultural schools, and industrial schools for women.

HONDURAS.

PUBLIC INSTRUCTION IN THE DEPARTMENT OF TEGUCIGALPA.—The number of pupils matriculated in the public schools of the Department of Tegucigalpa in August, 1920, was 1,788 males and 1,655 females. The average attendance was 1,308 males and 1,310 females.

PENSION TO A YOUNG ARTIST.—The Government of Honduras has granted a pension to Pablo Zelaya Sierra, a young Honduran artist, to enable him to go to Madrid and continue his studies there.

MEXICO.

NAUTICAL SCHOOL.—A bill has been introduced into the Mexican congress for the establishment of a nautical school at Mazatlan, State of Sinaloa.

SCHOOL EXHIBITS.—The School of Arts and Crafts, and the high school "Corregidora Dominguez," both of which are girls' schools located in the city of Mexico, recently placed on exhibition samples of their work, consisting of millinery, drawn work, dressmaking, cooking, etc.

ENGLISH INSTRUCTION TO RAILWAY EMPLOYEES.—In compliance with a request of numerous employees of the Mexican railways in the City of Mexico, the railway management has arranged a course of free instruction to railway employees who wish to study the English language after working hours.

URUGUAY.

INDUSTRIAL SCHOOL.—The Superior Board of Industrial Education recently resolved to establish industrial schools in different towns in the interior of the Republic. One of these, which is coeducational, was opened to service in Cañelones in October last. Provision is made for the instruction of male pupils in carpentering, blacksmithing, mechanics, and basket making. Girl pupils will be taught dressmaking, cutting, fitting, trimming, lace work, and basket making.

MEDICAL SCHOLARSHIPS.—Dr. Vargas Salcedo, of the educational mission of the Chilean Government, visited Uruguay during the latter part of last year with the object of arranging an interchange of annual scholarships for medical students of the schools of the two countries.

MODEL SCHOOL BUILDING.—The department of public instruction is negotiating for the purchase of a site in the city of Union for use in the erection of a model school building for primary instruction, payable out of the fund of 300,000 pesos donated by will to the Uruguayan Government by Felipe Sanguinetti, a Uruguayan philanthropist, for educational purposes.

VENEZUELA.

SCHOOL OF WIRELESS TELEGRAPHY.—In accordance with a decree of the Provisional President of Venezuela a school of wireless telegraphy is to be established in Caracas. This is the second step in the Government's plan to maintain national employees who shall be experts in radio telegraphy. The first step was taken where scholar-

ships were granted to three young Venezuelans, sending them to the United States to perfect their knowledge of wireless telegraphy, in order to become instructors in the Government service. Present plans include the establishment of two stations for domestic service in addition to the 2-kilowatt station which has already been erected for purposes of instruction.



GENERAL NOTES

ARGENTINA.

ART EXHIBITION.—The Argentine artists, Abraham Vigo, Agustín Riganelli, and Guillermo Facio, members of the National Society of Artists, have organized an exhibition of their works in the Salon Costa in Buenos Aires. Among the exhibits are a fine collection of portraits of children, the work of Señor Vigo; oil paintings and water colors by Señor Facio; and sculptures by Riganelli, making some hundred exhibits in all.

FOREIGN STUDY COMMISSIONS.—The Argentine Government has commissioned Drs. José Popolizio and Hector Colmegna to go to Europe to study, the former the clinical treatment of backward children, and the latter the question of maternity hospitals for tubercular working women.

AEROPLANE PASSENGER SERVICE.—The senate has approved the concession sought by Señor Eduardo Bradley to establish and develop air passenger service, as well as the carrying of mail and parcels post between Bahia Blanca and Río Gallegos, with stops at Patagones, San Antonio, Oeste Madryn, Trelew, Rawson, Camarones, Comodoro Rivadavia, Puerto Deseado, San Julian, and Santa Cruz.

REORGANIZATION OF THE CONSULAR SERVICE.—The President has issued a decree reorganizing the consular service of the Republic, making, among many appointments and transfers, the following: Consul general in Paris, Dr. Alfredo Oliverio; consul general (second class) Amsterdam, Arturo H. Mazza; consul general (second class) Budapest, Enrique Hayton; consul general (second class) San Jose, Costa Rica, Juan C. Margueirat; consul general (third class) Lima, Juan C. Vasquez; consul in Santiago de Chile, Daniel Lopez Quesda; consul general (second class) San Francisco, Calif., Santos Goni. Transfers: From San Francisco to the consulate general of Wellington, Consul General Don Horacio Bossi Cáceres; the consul from Marseille, Don Angel M. Botero, to Naples; and the present consul in Lima, Don Aristobulo A. Leoni, to the consulate general in Quito.

BRAZIL.

EXPOSITION.—A stock exposition at Sao Paulo was opened in the palace of industries and adjoining grounds on October 30 last. Especially fine exhibits of hogs, sheep, goats, hares, and fowls were made. The exposition was held under the auspices of the municipal government of the city and was the third of its kind to be celebrated in the industrial palace.

STOCK FAIR.—Early in October last the Agricultural Stock Society held a fair in Sant' Anna do Livramento, State of Rio Grande do Sul. The animals entered for exhibit numbered 2,100.

AGRICULTURAL STOCK FAIR.—The fourth agricultural stock fair was recently held at Porto Alegre, State of Rio Grande do Sul. During the first few days of the fair the attendance was more than 30,000 people.

BAGE EXPOSITION.—The exposition held in October last at Bage, State of Rio Grande do Sul, was a great success. The stock exhibits were particularly interesting and were visited by thousands of persons.

FLOWER CARNIVALS.—A flower carnival was held in Sao Paulo on October 6 last. The proceeds of the carnival were donated to the foundling hospital. A flower carnival was also recently held in Porto Alegre, and the proceeds were placed in the fund for the construction of a tuberculosis sanitarium.

EXPERIMENTAL STATION.—Steps have been taken by the governor of the State of Bahia to secure the establishment of a cotton experimental station in the city of Morro do Chapeo.

IMMIGRANTS.—In July and August last 74 vessels entered the port of Rio de Janeiro bringing 5,765 immigrants, 4,123 of whom were males and 1,642 females. Among this number were 2,621 Portuguese, 770 Italians, 707 Arabians, 434 Germans, and 291 Spaniards.

CHILE.

LOEFLER SERUM.—The national society of agriculture has decided to purchase the laboratory of Señores Valenzuela and Torres to manufacture Loeffler serum for use in the prevention and cure of cattle diseases.

MONUMENT TO GENERAL BAQUEDANO.—A public subscription has been opened for the erection of a monument to Gen. Manuel Baquedano, chief of the Chilean forces in the war of the Pacific.

PHILANTHROPIC WORK.—In the will of the late Señor Desiderio Lemus Silva several important donations were left to charity and public instruction. Among other donations were the following: Fifty thousand pesos to the National Guardianship of Children; 20,000 pesos to the Hospital San Vicente de Paul, at Santiago; 50,000 pesos to improve the surgery of the Hospital of San Juan de

Dios, at Santiago; 20,000 pesos to the League of Poor Students; 50,000 pesos to the public charity of Santiago; 20,000 pesos to the Society of Primary Instruction; 10,000 pesos for the cemetery of the town of Lampa; 20,000 pesos for different charities; 20,000 pesos to be distributed among poor and honest young single women; 25,000 pesos of which the interest is to be used for an annual prize for the honor student of agricultural engineering in the agricultural school at the Quinta Normal; and 150,000 pesos, the interest of which is to be used for the purchase of shoes, clothing, and books among the poor pupils of the city schools of Santiago.

COLOMBIA.

NATIONAL HOLIDAY.—The congress of the Republic has passed a law declaring May 6, 1921, a holiday, as it is the centenary of the installation of the general congress which met in the town of Rosario de Cucuta, representing the people of Venezuela and Neuva Granada, and laid the plans for the Republic of Colombia. In the chapel of Rosario de Cucuta where the congress met a commemorative tablet will be placed.

NEW SANITARY ORDER.—The directorate of hygiene has prohibited the admittance into any port of the Republic of immigrants or passengers who have been refused entrance into the port where they first arrived. Ports will immediately advise by telegraph other ports to prevent the entrance of persons once refused. Officials who infringe this order will be subject to a heavy fine.

CHILEAN MILITARY MISSION.—The ministry of war has prepared a contract to bring a Chilean military mission to Colombia of the same character as those which have come to the Republic before. The new mission will consist of eight officers; one, a general, to superintend the direction of military instruction; one colonel to aid the ministry of war; a special major for the general staff; a captain for the instruction of the infantry; one for the cavalry; one for the artillery; one for the engineer corps; and a lieutenant for the transportation branch.

SANITATION OF BOGOTA.—By means of the Colombia legation in Washington, the board of health of Bogota has made a contract with the Ullen Contracting Corporation to review the estimate of plans, surveys, and appropriation for the sewers and aqueducts of Bogota which are to be built at the same time. Two engineers have been sent to Bogota by the company.

COSTA RICA.

CENTRAL AMERICAN CONFERENCE.—During December the plenipotentiaries of the five Central American Republics met in San Jose, Costa Rica. The delegates were endowed with full powers to sign

for the Union of Central America, the idea being embodied in each one of the constitutions of these countries.

CUBA.

DELEGATE TO THE INTERNATIONAL INSTITUTE OF AGRICULTURE.—Dr. Francisco F. Falco has been appointed by presidential decree as delegate for the Republic to the International Institute of Agriculture in Rome, Italy.

LITERARY COMPETITION.—To increase general knowledge of the Cuban writers and literature of the past century, the department of public instruction and fine arts has opened a literary contest for national writers to take place on May 19 of the present year. The contest is upon one subject—a complete critique of the writers and poets of the nineteenth century.

CONSULAR CHANGES.—A presidential decree makes the following changes of posts and promotions in the consular service: Transfers—Consul General Luis Rodriguez Embil from Rotterdam to Hamburg; Consul Federico Sanchez from Honolulu to Boston; Consul Alberto S. Hiria from Boston to Honolulu; Vice Consul José A. Ramos from New York to Cleveland; Second Class Consul Guillermo Godoy from Mayaguez to Marseille; Second Class Consul Juan P. Stable from Marseille to Alicante; Second Class Consul Fernando Paine y Pols from Gijon to Coruña; Second Class Consul León de León y Lazo from Milar to Gijon; Second Class Consul Leopoldo Pereira from Seville to Vera Cruz; and Chancellor Lorenzo Blas Verde from Quito to Alicante. Promotions—Vice Consul Crecencio Sacerio at Cleveland to consul general in Rotterdam; Vice Consul Pedro E. Desvernine to second-class consul in New York; Vice Consul Nicolas Bilbao Puig at Hamburg to second-class consul in Bremen; Vice Consul José Robleda at Vera Cruz to second-class consul in Seville; Vice Consul Alberto G. Abreu Sanchez in Ottawa to second-class consul at Mayaguez; and Vice Consul Alfonso Fernandez Sarrasí in Barcelona to second-class consul in Malaga. The resignation of Señor M. Fernández Sarrasí, second-class consul in Alicante, has been accepted.

DOMINICAN REPUBLIC.

SUPERIOR COURT OF LANDS.—The superior court of lands has been organized in Santo Domingo City in accordance with the law governing the registry of lands.

ECUADOR.

MILITARY-COMMERCIAL MISSION.—During the latter part of last year an Italian military-commercial mission visited Ecuador. Recently Italian interests have been active in Ecuador in negotiations

for the construction of public works, such as wharves, customhouses, government buildings, etc.

COMMEMORATIVE PLAQUE.—In October last a commemorative plaque in honor of Hideyo Noguchi, a noted Japanese bacteriologist, was unveiled in the laboratory of the department of public health in Guayaquil. The following is a translation of the inscription contained on the plaque: "In this laboratory of the department of public health, the eminent Japanese bacteriologist, Hideyo Noguchi, member of the Rockefeller Institute, discovered the yellow-fever germ on July 24, 1918."

VENEZUELAN LEGATION.—The Government of Venezuela has established a legation in Quito, and has appointed Dr. José Andara, ex-minister of foreign relations and a former member of the Venezuelan senate, its minister near the Government of Ecuador.

GUATEMALA.

PROPOSED AMENDMENTS TO THE CONSTITUTION.—On October 25 of last year 93 deputies were elected to the national constituent assembly which met in the city of Guatemala on November 15, 1920, for the purpose of amending the Guatemalan Constitution. President Herrera in his message to that assembly recommended that the term of office of the President of the Republic be changed from six to four years, and that reelection be prohibited in such a manner as to avoid the uninterrupted occupation of the presidency for an indefinite series of years. He further recommended that his own term of office, should he be reelected to serve from March 15, 1921, be limited to four years, that is to say, that it should expire on March 15, 1925, instead of March 15, 1927.

PUBLICITY BUREAU.—A publicity bureau has been established by the Guatemalan Government for the purpose of promoting investments in agricultural lands and encouraging diversification of agricultural production.

PROTECTION OF CHILDREN.—A society was recently organized in the city of Guatemala for the protection of children under the official name of "Sociedad Protectora de Niños."

DAILY NEWSPAPER.—Guatemalan and Mexican capitalists have formed a company to publish a daily newspaper in the city of Guatemala.

MONUMENT.—A patriotic organization of prominent citizens has been formed to take the necessary preliminary steps for the erection in San Lorenzo of a monument in honor of Gen. Justo Rufino Barrios.

REGISTRATION OF CHINESE.—A recent decree requires the registration of all Chinese citizens residing in the Republic.

HONDURAS.

MEETING OF PRESIDENTS.—The presidents of Honduras, Nicaragua, and Salvador held a conference in Amalpa in November, which was also attended by the minister from the United States to Nicaragua.

MEXICO.

CABINET.—The cabinet of Gen. Alvaro Obregon, who took the oath of office as President of Mexico on November 30, 1920, is as follows: Secretary of the interior, Gen. Plutarco Elias Calles; secretary of foreign relations, Dr. Cuthberto Hidalgo; secretary of finance, Adolfo de la Huerta; secretary of industry and commerce, Lic. Rafael Zubaran Capmany; secretary of agriculture, Gen. Antonio I. Villareal; secretary of communications and public works, Gen. Pascual Ortiz Rubio; and secretary of war and navy, Gen. Benjamin G. Hill.

CONGRESS OF MUNICIPAL GOVERNMENTS.—The First National Congress of Municipal Governments was opened in the City of Mexico on November 1, 1920, with an attendance of over 800 delegates.

AEROPLANES.—Two commercial aeroplanes from the United States recently entered the State of Chihuahua destined to the City of Mexico and intermediate points, with the object of marking landing fields and to advertise and sell aeroplanes and automobile trucks.

AUTOMOBILE HIGHWAY.—The highway from the City of Mexico to Cuernavaca, which formerly was a popular automobile drive, is to be reconstructed and the sides of the road planted with shade and ornamental trees.

CONGRESS OF JOURNALISTS.—The Congress of journalists and newspaper writers, which met in Torreon in November last, will open its next meeting in the city of Chihuahua in 1921.

GERMAN IMMIGRANTS.—One hundred German families recently arrived in Vera Cruz for the purpose of colonizing agricultural lands in that State.

PROPOSED UNION STATION.—Tentative plans for the construction of a union station in the City of Mexico have been submitted to the department of communications and public works of the Mexican Government. The estimated cost of the station is about 3,000,000 pesos.

IRON MOUNTAIN.—El Universal, a daily newspaper of the City of Mexico, states that a Boston syndicate has outbid Japanese interests and bought the celebrated Cerro del Mercado, or Iron Mountain, near the city of Durango, State of the same name, and proposes to operate a large smelter there.

AUTOMOBILE EXHIBIT.—An automobile exposition is planned to be held in the City of Mexico in March, 1921. It is proposed to erect

a temporary building in front of the National Theater to house the exhibits.

MERCHANT MARINE.—The secretary of communications and public works, according to *El Universal*, has submitted the following points for the consideration of the President of the Republic: 1, make effective the fishing rights in territorial waters which the law reserves for Mexican vessels; 2, make effective the law relating to coastwise trade which reserves these operations for Mexican ships; 3, special import duties on shipbuilding material; 4, payment of subsidies to national enterprises engaged in the manufacture of marine materials; 5, reduction of port charges to ships flying the Mexican flag; 6, reduction of freight rates on articles exported in Mexican ships; 7, facilities for the prompt lading and unlading of ships; 8, payment of subsidies to Mexican ships engaged in international trade; 9, free importation of fuel on the Pacific coast; 10, facilities for the construction of fuel stations on the coasts; and 11, facilities for the construction of wharves and other port improvement works.

COLOMBIAN DRAMATIST.—The new play, "El Amor de los Escombros," by the Colombian dramatist, Don Luis Enrique Osorio, was presented with great success in the Mexican capital and attended by the President and the diplomatic corps of Latin America and Spain.

GENARO GARCÍA.—On November 26 the most illustrious of contemporary Mexican historians, Licenciado Genaro García, died in the City of Mexico. He had published about 100 books, among which were the 37 volumes of "Documentos inéditos o muy raros para la historia de México," "Caracter de la conquista española," and others. He left two works incomplete, one on architecture in Mexico and the other on women's rights. Genaro García was born in Fresnillo, State of Zacatecas, on August 17, 1867. Among other important posts he held the directorship of the National Preparatory School and the directorship of the National Museum of Archæology, History, and Ethnology, which he developed under his regency so that they became well known.

NICARAGUA.

NEW PARK.—A new public park called Las Piedrecitas was recently opened in the city of Managua, capital of the Republic.

POPULATION.—According to the official census recently completed the population of the Republic of Nicaragua is 638,119 inhabitants.

NEW LOAN.—According to news dispatches, the Congress of the Republic in an extra session has approved the terms of a loan of \$9,000,000, to be obtained in New York, for the purpose of con-

structing the Atlantic Railroad, the repurchase of the Pacific Railroad, and the payment of the bonds of 1909.

PANAMA.

MOUNTED POLICE.—The Republic of Panama has a force of mounted police numbering 175 well trained and equipped men. Recently the Government of Panama purchased from the United States 175 army saddles for the use of the mounted police.

GAS STORAGE TANK.—The Panama Gas Co. is building a large storage tank adjoining its plant at Chorillo. The capacity of the tank is 200,000 tons. It will be ready for use during the first part of the present year.

COALING PLANT AT CRISTOBAL.—The coaling plant at Cristobal recently unloaded 12,000 tons of coal in 14 hours and 20 minutes. This is said to be a better record by 6 hours and 10 minutes than that of any plant in any part of the world up to the present time.

FIRE-ALARM BOXES.—The Government of Panama has ordered the installation of fire-alarm boxes in the city of Colon at an estimated cost of \$20,000.

PARAGUAY.

AGRICULTURAL STOCK FAIR.—The agricultural stock fair, held in Asuncion under the auspices of the cattle society of Paraguay during the latter part of the past year, was a great success. The exhibits of cattle, horses, and agricultural products were especially fine.

NEW INSURANCE COMPANY.—A new marine, fluvial, and fire insurance company, under the name of "La Previson," was recently organized in accordance with the laws of Paraguay. Some of the principal stockholders are business men of Asuncion and Buenos Aires.

FIFTIETH ANNIVERSARY OF THE CONSTITUTION.—On November 25, 1920, the celebration of the fiftieth anniversary of the adoption and promulgation of the national constitution was celebrated throughout the Republic.

PERU.

ENGLISH IMMIGRANTS.—In October last 45 English immigrants entered Peru through the port of Callao. The party, consisting of 25 men and 20 women and children, was housed by the Government in the immigrants' hotel on the island of San Lorenzo until definite arrangements could be made for the transportation of the immigrants to their final destination.

QUARANTINE STATION.—Miss Goyeche, a Peruvian philanthropist, has ordered the construction and equipment of a quarantine station in Arequipa, which she proposes to donate to that city.

HOSPITAL.—A public hospital was recently completed, equipped, and opened for use in the town of Abancay.

CENTENNIAL CELEBRATION.—The Peruvian centennial celebration will be held from July to November, 1921. In connection with this celebration exhibits of foreign merchandise will be opened in Lima in the exposition building on July 28, 1921.

STATUE.—Steps have been taken for the erection in Barranco, a suburb of Lima, of a statue in honor of the Argentine statesman, Gen. Saenz Peña, the unveiling to take place during the approaching centennial celebration.

URUGUAY.

PUBLIC HOSPITAL.—A tract of about 15 acres of land in the suburbs of Montevideo has been purchased by the authorities (*Asistencia Pública*) as a site for a public hospital. Arrangements have been made for the maintenance of 500 beds, which number will be increased as the needs of the service require. The outlay for the site was 140,000 pesos.

PROPOSED INTERNATIONAL LABOR BUREAU.—The Bureau of Labor of the Department of Industries recommends the establishment of an international labor service charged with the handling of all social questions relating to the League of Nations in which Uruguay is concerned.

VENEZUELA.

FUNDS FOR PUBLIC WORKS.—On November 9 the President in a decree assigned an additional credit of 5,000,000 bolivars for public public works.

NEW MINISTER TO SPAIN.—Gen. J. A. Martínez Mendez has been appointed envoy extraordinary and minister plenipotentiary from Venezuela to the Court of Spain to succeed Dr. José Ignacio Cárdenas.

SECRETARY TO THE LEGATION IN ECUADOR.—The post of secretary of the legation in Ecuador has recently been created and Señor Julio A. Michelena, who held the same post in Paris, France, has been appointed to fill this office.

NEW VENEZUELAN MINISTER TO COLOMBIA.—Señor Dr. Domingo A. Coronil has been appointed minister plenipotentiary and envoy extraordinary to the Government of Colombia.



SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED TO DECEMBER 15, 1920

Subject.	Date.	Author.
ARGENTINA.		
The market for optical goods in Argentina.....	1920. Sept. 7	W. Henry Robertson, consu general at Buenos Aires.
Destination of Argentina's exports from Jan. 1, to Aug. 31, 1920..	Sept. 11	Do.
First Argentine National Economic Conference.....	Sept. 16	Do.
Estimate of Tucuman sugar crop.....	Sept. 18	Wilbert L. Bonney, consul at Rosario.
Construction in the city of Buenos Aires for the last 25 years...	Sept. 28	W. Henry Robertson.
Proposed industrial railway in Santiago del Estero.....	Oct. 4	Wilbert L. Bonney.
BRAZIL.		
Exports from Bahai to the United States.....	Oct. 7	Thos. H. Bevan, consul at Bahai.
Market for rebuilt typewriters in Pernambuco.....	Oct. 22	C. R. Cameron, consul at Pernambuco.
CHILE.		
Nitrate of soda statistics for August, 1920.....	Sept. 11	Thomas W. Voetter, consul at Antofagasta.
Continued depression of the nitrate market.....	Nov. 26	C. F. Deichman, consul gen- eral at Valparaiso.
COLOMBIA.		
The live-stock industry in the Department of Magdalena.....	Sept. 30	Leroy R. Sawyer, consul at Santa Marta.
Fuel facilities at port of Cartagena.....	...do....	E. C. Soule, consul at Carta- gena.
Rubber industry and rubber goods.....	Oct. 26	Edmund B. Montgomery, vice consul at Barranquilla.
Market for scientific apparatus and laboratory supplies.....	Oct. 30	Leroy R. Sawyer.
The coffee industry in the Santa Marta district.....	Nov. 11	Do.
Report on commerce and industries for August, 1920.....	Nov. 20	E. C. Soule.
Market for scientific apparatus and laboratory supplies.....	Nov. 22	Do.
*Production and export of the avocado from Santa Marta.....	Aug. 26	Leroy R. Sawyer.
COSTA RICA.		
Incorporation and corporation taxes in Costa Rica.....	Sept. 29	Benjamin F. Chase, consul at San Jose.
Descriptive information.....	Oct. 4	Do.
CUBA.		
Increased customs receipts of Cienfuegos.....	Oct. 1	Frank Bohr, consul at Cien- fuegos.
Market for scientific apparatus and laboratory supplies.....	Nov. 11	Do.
Annual report on commerce and industries for 1919.....	Nov. 15	Charles Forman, consul at Nueva Gerona, Isle of Pines, Cuba.
Laws of Cuba with respect to personal property.....	Nov. 22	Carlton Bailey Hurst, consul general at Habana.
Foreign trade of Cuba during fiscal year 1918-19.....	Dec. 8	Do.
DOMINICAN REPUBLIC.		
Tobacco industry.....	Nov. 22	W. A. Bickers, censul at Puerto Plata.
Fire insurance carried by local merchants.....	...do....	Do.
Municipal improvements; local waterworks purchased by mu- nicipality.....	Dec. 2	Do.
Customs receipts for Puerto Plata.....	Dec. 3	Do.
Economic conditions.....	Dec. 4	Do.
ECUADOR.		
Temperance—Proposed law being discussed in Congress.....	Sept. 25	Frederic W. Goding, consul general at Guayaquil.
GUATEMALA.		
Department of Agriculture authorized by decree No. 1042.....	Oct. 20	Herndon W. Goforth, vice consul at Guatemala City.
Increased honey production in Guatemala.....	Oct. 25	Do.
Improved parcel post service at Guatemala City.....	Nov. 25	Do.
Reduction of export duty on coffee.....	Dec. 2	Do.

* Credited in December Bulletin to S. J. Fletcher, vice consul at Cartagena.

Reports received to December 15, 1920—Continued.

Subject.	Date.	Author.
GUATEMALA—continued.		
Tax on money deposited in private banks in Guatemala City...	1920. Dec. 2	Herdon W. Goforth, vice consul at Guatemala City,
Increased electric power soon to be available in Guatemala City.	...do....	Do.
The Treasury Department of Guatemala comes to the aid of importers.	...do....	Do.
HONDURAS.		
Water-power resources and water-power projects.....	Oct. 27	G. K. Donald, consul at Tegucigalpa.
Fire insurance carried by merchants in Tegucigalpa.....	Nov. 15	Do.
Trade notes: Sugar concession applied for—Tegucigalpa light plant and water system—Rise in price of cattle—New motion-picture theater.	...do....	Do.
MEXICO.*		
Proposed port improvements at Manzanillo.....	Oct. 8	Harry L. Walsh, consul at Manzanillo.
Public-works contract—Sewerage system, paving of streets, reconstruction of water works.	Oct. 13	Paul H. Foster, consul at Vera Cruz.
Declared exports of bananas to the United States, 1913-1920, and formation of syndicate of banana growers.	Oct. 19	Lee R. Blohm, consul at Frontera.
Decree creating "free ports" of Salina Cruz, Puerto Mexico, and Guaymas.	Oct. 20	Cornelius Ferris, jr., consul in charge at Mexico City.
Annual report of consular district of Manzanillo, 1919.....	Oct. 21	Harry L. Walsh.
Record rice crop in Yaqui River valley.....	Oct. 26	B. F. Yost, consul at Guaymas.
Report that diamond field has been found in Sinaloa.....	...do....	Francis J. Dyer, consul at Nogales.
Market for scientific apparatus and laboratory supplies.....	Nov. 9	O. Gaylord Marsh, consul at Yucatan.
Gresham's law operating in Chihuahua.....	Nov. 24	James E. Stewart, consul at Chihuahua.
Proposed law for the construction of irrigation works in Sonora..	Dec. 2	Bartley F. Yost.
PANAMA.		
Export bounties or grants paid by foreign Governments.....	Sept. 15	Odin G. Loren, vice consul at Panama City.
New incinerator for Colon.....	Oct. 23	Do.
New steamship lines from Colon to Cristobal.....	Nov. 4	Do.
Fire insurance carried by merchants in Colon.....	Dec. 3	Julius D. Dreher, consul at Colon.
PARAGUAY.		
Statistics of the Municipality of Asuncion for first six months of 1920.	Sept. 24	George E. Seltzer, vice consul at Asuncion.
Opportunity for sale of piece goods (cotton).....	Oct. 14	Do.
Incorporation and corporation taxes in Paraguay.....	Oct. 15	Do.
General moratorium in Paraguay.....	Nov. 12	Do.
PERU.		
Construction in Peru—Modern apartment and office buildings..	Oct. 9	James H. Roth, vice consul at Callao-Lima.
The rubber industry and market for rubber goods.....	Oct. 11	Do.
Hunting of vicuña is prohibited under decree of Oct. 8, 1920.....	Oct. 12	Do.
Colonization concession granted.....	Oct. 25	Do.
SALVADOR.		
Highway transportation.....	Oct. 15	Lynn W. Franklin, vice consul at San Salvador.
Coffee crop of El Salvador, 1920-21.....	Nov. 8	Do.
Sugar production in El Salvador, 1920-21.....	...do....	Do.
Foreign trade extension work.....	Nov. 19	Do.
URUGUAY.		
Automobiles imported by Uruguay, proposed increase in customs duties.	Sept. 16	David J. D. Myers, consul at Montevideo.
National wool scouring plant at Montevideo.....	Sept. 21	Do.
Foreign trade—Imports and exports by articles, 6 months 1920..	Oct. 5	Do.
Garbage burners in Montevideo.....	Oct. 25	Do.
Rubber industry and market for rubber goods.....	Nov. 10	Do.
VENEZUELA.		
Construction of wireless telegraph stations in the interior.....	Sept. 30	George R. Phelan, vice consul at Puerto Cabello.
Shipments of coffee from Maracaibo for September.....	Oct. 20	Dudley G. Dwyre, consul at Maracaibo.
Importation of musical instruments into Venezuela, 1913-1918...	Oct. 25	Richard Flood, jr., vice consul at La Guaira.
Coffee exports for October.....	Nov. 17	Dudley G. Dwyre.

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BRAZIL.

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CUBA.

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GUATEMALA.

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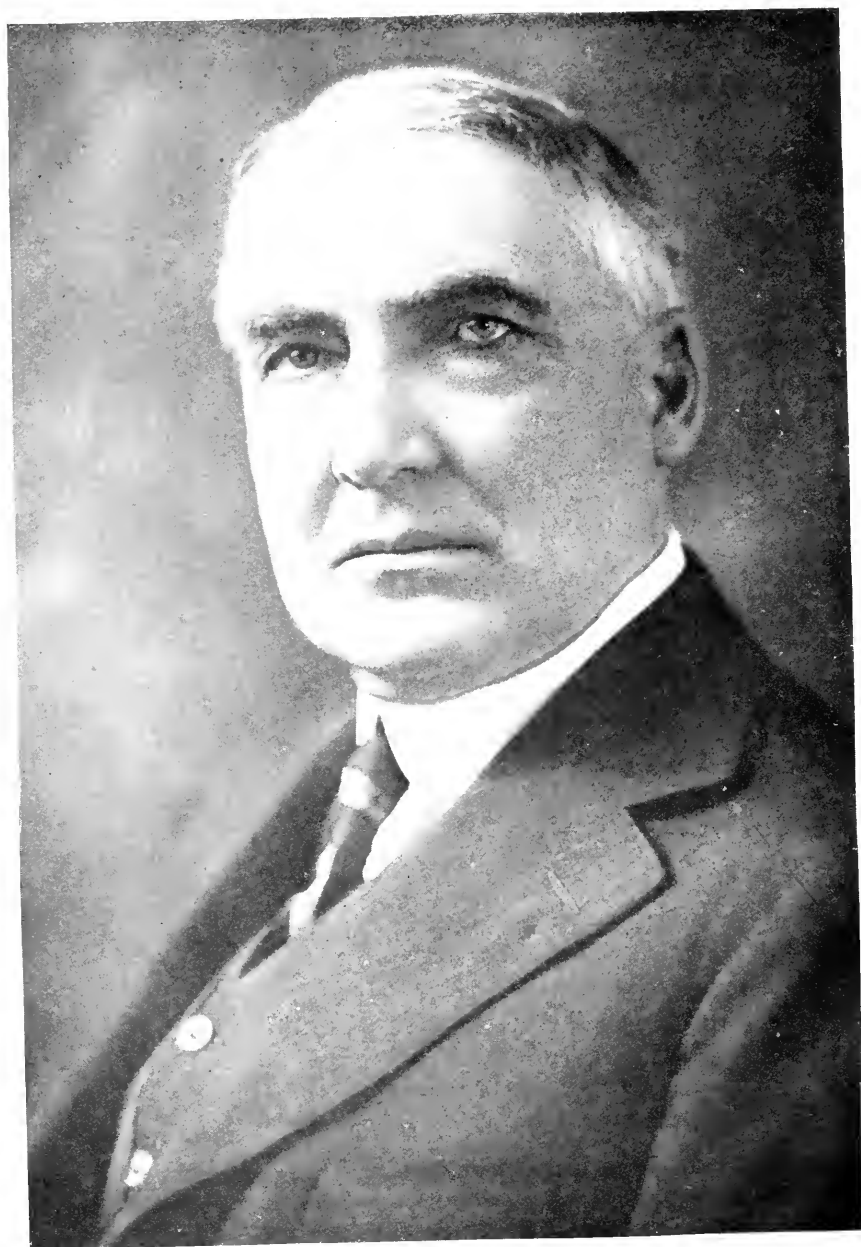
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TABLE OF CONTENTS

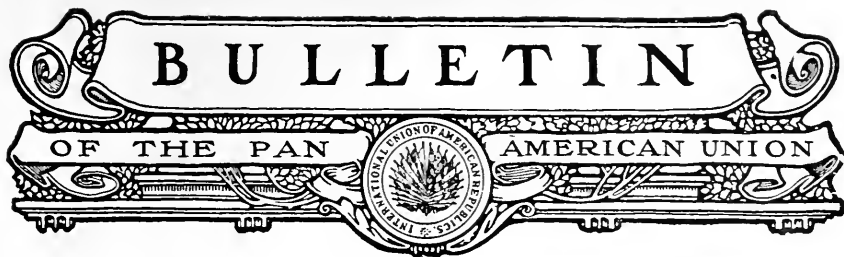
	Page.
Among Bolivia's Highest Tin Mines.....	217
Home for International Trade-Mark Office.....	236
Constitutional Tendencies in Latin America.....	244
Public and Private Credit in Latin America.....	254
Postal Convention in Force.....	263
Foreign Trade of Argentina for 1920.....	264
United States Trade with Latin America.....	266
To the Memory of Charles Edward Albes.....	269
Agriculture, Industry, and Commerce.....	270
Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Haiti, Mexico, Nicaragua, Panama, Paraguay, Peru, Salvador, Uruguay, Venezuela.	
Economic and Financial Affairs.....	284
Argentina, Brazil, Chile, Colombia, Cuba, Dominican Republic, Ecuador, Guatemala, Haiti, Mexico, Paraguay, Peru, Uruguay.	
International Treaties.....	292
Brazil-Belgium.	
Legislation.....	293
Chile, Colombia, Costa Rica, Ecuador, Guatemala.	
Public Instruction and Education.....	296
Argentina, Brazil, Chile, Colombia, Dominican Republic, Ecuador, Guatemala, Mexico, Nicaragua, Peru, Uruguay, Venezuela.	
General Notes.....	303
Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Haiti, Mexico, Nicaragua, Panama, Paraguay, Peru, Salvador, Uruguay, Venezuela.	
Subject Matter of Consular Reports.....	317
Book Notes.....	319





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HONORABLE WARREN G. HARDING.
Inaugurated President of the United States on March 4, 1921.



VOL LII.

MARCH, 1921

No. 3

AMONG BOLIVIA'S HIGHEST TIN MINES¹ ∙ ∙ ∙ ∙ ∙ ∙ ∙ ∙

BY JOSEPH T. SINGEWALD, JR.

THE Cordillera Real, or eastern range of the Bolivian Andes, was famous in the Spanish colonial days for its great silver bonanzas, but for over a quarter century it has been one of the world's important sources of tin and is one of increasing productivity. The portion of the chain that lies between La Paz and Oruro has been relatively inaccessible, due to its distance from railroads and the extremely high elevations at which the tin veins lie. It comprises for the most part a series of high, glacier and snow covered peaks called the Quimsa Cruz Range, which is terminated on the north by the La Paz River and on the south by the Santa Vela Cruz Pass, separating it from the less lofty Santa Vela Cruz group. The difficulties of travel in these rugged mountains are so great that until very recently their economic possibilities were not known and the exploitation of their numerous and rich tin veins had been undertaken to a very limited extent. Increasing interest in the region has finally culminated in the great American mining interests represented by the Guggenheim brothers acquiring extensive properties and commencing their development.

The older mining operations in the Quimsa Cruz region centered about the Araca district on the northwest slope of the range, which is reached from La Paz by way of the La Paz River valley, and in several districts toward the south end in the region of Santa Vela Cruz Pass, which are reached by crossing the high plateau either from Oruro or from Eucalyptus, a station on the Antofagasta & Bolivia Railway a short distance north of Oruro. There is practically no traffic along the range between the two regions on account of the

¹George Huntington Williams Memorial Publication No. 7.



Photograph by Joseph T. Singewald, Jr.
A PICTURESQUE POINT ON THE NEW TRAIL DOWN THE LA PAZ VALLEY.



ILLIMANI. ONE OF THE MOST IMPOSING PEAKS OF THE ANDES.

highly accidented character of the intervening topography. The geologic explorations of the George Huntington Williams Memorial Expedition of the Johns Hopkins University in 1919 necessitated traversing the range longitudinally—a journey that disclosed to its members views of stupendous Alpine glaciation, vast snowfields, and gigantic peaks.

The Andean traveler soon learns that one can not get anywhere in the Andes except on mule back, and yet whenever and wherever he is confronted with the need of mules he must go through an endless bargaining and long waiting until the animals are made ready for the trip, such as would lead a novice to suppose that mule hiring was a very unusual and unexpected sort of transaction. But vexations over the inevitable delays are largely soothed by the interesting scenes and varied life that he finds about him. All the Bolivian cities have features of special interest to the traveler. Oruro is a city of one-story adobe houses, spread out on the high plateau at the base of the Oruro hills, and yet is one of the important commercial centers of the country. Corocoro, which lies farther west on the high plateau nestled in a group of low hills, is a large Indian town, in which the white population constitutes an insignificant proportion of the whole. Its mines have achieved much fame as producers of native copper ores, sharing with the Lake Superior region of the United States the distinction of being the only two localities where the chief mode of occurrence of the metal is in the metallic form. Colquechaca, of colonial renown as a silver producer, is now undergoing an important revival as a producer of tin and silver, so that it presents the weird spectacle of a neat rebuilt center surrounded by street after street of buildings in ruins, mementos of the past prosperity. More striking is the situation of Potosi, a city of over 20,000 inhabitants, which lies at the foot of a symmetrical conical peak of the same name that enjoys the distinction of having produced more silver than any other area of its size in the world. Sucre is the classic city of Bolivia. It possesses a more genial climate than the previously mentioned cities, and its inhabitants have had to devote less energy to the mere fight for existence against cold and elevation, so that it prides itself on an atmosphere of culture and education superior to that of other Bolivian cities. Its remote location, far from existing railroads, has also preserved with few changes the architectural features of the colonial period. The view across the rooftops from the roof of the municipal building shows continuous rows of red-tile roofs without the unartistic interruptions of corrugated iron roofs and similar jarring modern touches of more progressive industrial Andean cities. Still lower and with more balmy climate is Cochabamba. Its ready accessibility makes it a favorite resort for those seeking to escape for a while the more rigorous climates of the more elevated cities; yet Cochabamba has an elevation of 8,700



Photograph by Joseph T. Sineswold, Jr.

THE TARCHUMANA MILL AT TANAPACA, A BOLIVIAN TIN MINE IN ITS INFANCY.



Photograph by Joseph T. Sineswald, jr.

A ZIGZAGGING TRAIL ASCENDS 2,000 FEET OF STEEP SHALY SLOPES FROM THE ARACA MILL TO THE MINE.

feet, which in the United States would rank it among our highest cities. Despite their many attractive and unique features, not one of these cities can arouse the interest that La Paz does. If asked which South American city above all others should one not fail to see, the inevitable answer must be La Paz.

La Paz is situated in a basinlike depression between the mountains and the eastern edge of the high plateau which the La Paz River has scoured out of a great thickness of detrital material that was washed out of the mountains by streams of an earlier geologic period. Although the river has cut the basin to a depth of 1,500 feet, it has failed to reach the solid rock beneath the alluvial mantel. The lucky traveler will reach La Paz on Saturday afternoon. If he comes from the north or the south his train will have paralleled the snowy peaks to the east for several hours and then turned abruptly to meet them. His watch tells him he is about due in La Paz, but his eye sees only the flat, sparsely inhabited, high plateau that the train is traversing and its sudden termination by the giant Illimani and neighboring peaks ahead. The train stops at the edge of the plain on the brink of a great depression that lies between it and the flanks of the mountains. At the bottom of the depression, over a thousand feet below the astonished traveler, the city of La Paz unfolds itself. Converging toward the same point, from all directions on the high plateau, are Indians, llamas, and donkeys, all with bundles on their backs filled with the products and produce of the surrounding region to be disposed of at the great market. After a brief halt the train begins the descent to the city by a series of long curves and switchbacks around the walls of the basin. The converging groups of humanity and beasts on the "alto" are being discharged as a continuous stream down a broad trail which, with steeper gradients than those of the railroad, makes a more rapid though likewise circuitous descent to the city. The streets are crowded with the arriving Indians and their beasts of burden, hurrying hither and thither. But the quiet tread of the llama, the silent footsteps of the barefooted or sandal-shod Indians, and the absence of the noise of vehicular traffic impart a strange stillness to the scene of bustling activity. One almost feels he is looking at pictures rather than actually wandering through streets teeming with life.

The climax of the treat is reserved for Sunday morning, when the newly arrived visitor sallies forth to his first acquaintance with the greatest Indian market in all South America. Where the innumerable Indians and llamas and donkeys disappeared to Saturday afternoon is inexplicable. Saturday evening the streets were quiet and deserted except for the hurried passage of occasional belated groups; but Sunday morning all have turned out en masse from their nocturnal hiding places, spread their wares along both curbs of the downtown streets, and are surging to and fro, looking, gossiping,



Photograph by Joseph F. Singewald, Jr.

THE LARAMICOTA VALLEY, WHICH ADJOINS THE CHOINACOTA VALLEY ON THE NORTH.

One of the glaciated valleys crossed on the road from Araca.



Photograph by Joseph T. Singewald, Jr.

JACHACUNOCOLLO, OR THE GREAT SNOW MOUNTAIN, SEEN FROM THE CHOJNACOTA MINE.

A typical view of the Quimsa Cruz Range.

and buying. Housekeepers elbow their way through the crowd, followed closely by their Indian maids with baskets for the marketing; the Cholas, in their striking and characteristic costume with stiff white straw hats, facetiously yet appropriately called "white enameled derbies" by the American mining men, attract the attention of the foreigner; but the center of interest is the Indian, from the oldest old woman to the tiniest tot. On week days the crowds are less dense and the display of goods not spread through so many streets; but even on those days time does not hang heavy on one's hands while waiting for his arriero and mules, as, no matter how often repeated, a stroll through the town is an unfailing source of pleasure and fascination.

The trail to the Quimsa Cruz region from La Paz descends the valley of the La Paz River. For nearly an hour the highway is dotted with the long-strung-out suburbs of the city; then settlements become less and less frequent and represent chiefly groups of adobe huts spaced at convenient intervals, corresponding to the increasing thirst of those approaching the city to sell their products and the diminishing purses of those returning home with newly made purchases. The universal beverage to be secured at these places is "chicha," a sort of corn cider, which is encountered in all stages of fermentation. For miles the river has cut its course through the same loosely consolidated material that forms the walls of the La Paz basin, and differential erosion combined with irregularities of induration have fashioned the valley walls into huge monoliths and an endless variety of lesser artistic and bizarre figures of bad-land topography. Each turn of the trail and each bend in the river reveals a new physiographic setting that serves to divert the attention from the hardness of the saddle and the heat of the noonday sun in the cloudless sky.

By noon the trail, which had been clinging to the sides of the valley, descended to the valley floor itself, crossing and recrossing the narrow stream that occupies but a fraction of the broad river bed. In the middle of the afternoon Illimani suddenly burst into view at the head of one of the side valleys on the left. Illimani is not really a mountain peak, but an enormous mountain mass that attains an elevation of about 22,000 feet, the upper part of which is enveloped in snow and ice. Lacking the striking effectiveness of serrated forms, it is impressive from its sheer bulk and mass, and is one of the outstanding mountains of the entire Andean chain. The hacienda of Millacota, 27 miles from La Paz, where we stopped for the night, was reached long before sundown; and the rest in the warm afternoon sunshine gazing on the towering form of Illimani quickly dispelled the feeling of fatigue from the day's tedious ride.

The second day's ride is longer and more arduous, so we were under way soon after 5 o'clock. Again the trail followed the river



Photograph by Joseph T. Sineswold, Jr.

THE BARE RIDGES BETWEEN THE GLACIERS REWARD THE PROSPECTOR WITH VEINS CARRYING HIGH-GRADE TIN ORES.

bed with innumerable crossings of the stream. Here and there at long intervals a small river terrace can be cultivated, but the valley was constantly growing narrower and the walls more precipitous. The soft, loosely consolidated material had given way to tough dark shales which do not weather to the fantastic forms seen along the trail the day before. The tributary streams descending the flanks of Illimani are shorter and running with the turbulent, milky, silt-laden waters of the melting glacial ice. Each side valley displayed a new vista of the summit, more stupendous, more awe inspiring than the preceding. Despite the additions of the numerous glacial streams, the loose boulder and cobble filled river bottom absorbed the water so rapidly that no augmentation in the surface stream of the La Paz River took place. On the opposite side numerous tributary valleys enter the main valley, but these are wholly devoid of water in the winter season. Early in the afternoon the main gorge was entered—a deep incision into the face of the earth. The river which had sawed its way closer and closer to the axis of the range here cut a profound gash through the continental divide and emerges on the opposite side of the Andes to discharge its waters into the Atlantic drainage. Rising 15,000 feet above the bed of the river on the north is the crest of Illimani, and on the south are the Choquetanga peaks, the northern end of the Quimsa Cruz range.

The desire to traverse this great cut and see what lies beyond was well nigh irresistible, but hardly had the trail entered the narrowing canyon when it utilized a steep lateral gulch to climb out of it on the south side. Higher and higher the trail ascended the steep shaly slopes, causing Illimani across the valley to stand out more and more prominently. It was the middle of the afternoon and great banks of white vapory clouds were playing about the crest in ever-changing shapes and combinations. No sooner was the crest of the ridge reached than the trail plunged precipitously into another valley and shut the magnificent mountain out of view for the time being. Another climb, another descent, and a subsequent short but steep ascent concluded a 40-mile ride and brought the party late in the day to the hacienda Huerta Grande, low down on the slopes of the Quimsa Cruz range. The cordial invitation of the proprietor, Mr. Louis Pando, to tarry a day was gladly accepted. Ten thousand peach trees just bursting into bloom, English walnut and chirimoya trees laden with fruit, and a garden fragrant with a profusion of roses gave no inkling of the austere climatic conditions dominating these same mountain slopes 5,000 to 10,000 feet above us.

The Quimsa Cruz range is underlain by a large granitic batholith that extends far to the north. Local projections of the granitic mass to higher levels constitute the core of this range, of Illimani, and of other peaks farther north. The igneous rock was intruded in late



Photograph by Joseph T. Singerwald, Jr.

THE MONTE BLANCO MILL AT AN ELEVATION OF 16,000 FEET, WITH THE MINES 1,000 TO 2,000 FEET ABOVE IT.

Tertiary time into a thick series of Silurian and Lower Devonian highly metamorphosed shales with intercalations of sandstones and quartzites. On the western slopes of the Quimsa Cruz range only the sedimentary rocks are exposed. The crest of the range and the upper part of the eastern slopes expose the granite, but the sedimentaries constitute the lower eastern slopes. The granite core does not outcrop quite to the south end of the range. Hence the tin veins of the west side and southern end of the mountains are in the slates and quartzites, and those of the east side largely in the granite. The tin ores of this region differ from those of most Bolivian districts in the absence of silver. For that reason it received no attention in the days of Bolivia's fame as a silver producer and was an unknown region when tin mining was developing in the old silver districts. This fact together with the inaccessibility of the region, account for the tardy recognition of the great richness of its tin deposits.

Topographically the range presents a 25 mile long crest of peaks approaching 20,000 feet in elevation, between which there are no ice-free passes, so that traffic from one side to the other is forced to pass around the range instead of across it. The summits are capped with snow and ice, and in all the transverse valleys glaciers descend to an elevation of 16,000 feet. The mines are located chiefly on the ridges between the glaciers and lie at elevations of 16,000 to 18,000 feet. The concentrating mills and mine headquarters are in the valleys at the foot of the glaciers, at elevations of 15,000 to 16,000 feet. The air of the western side is dry during most of the year; but, on the east side, almost all the year round, the sun is hidden by the cold mists which frequently are converted into snow squalls that represent the chilled rising moisture-laden air of the low wet Amazon basin. Few mining regions of the world present more difficult problems of climate and topography.

The active mines on the west side of the range are the Tanapaca and Araca in the northern part and the Chojñacota and Monte Blanco near the south end. The Tanapaca mines are 4,000 feet above the hacienda Huerta Grande, and have been worked on a small scale by Mr. Pando and Hugo Zalles, but are now being developed by the International Mining Co., a subsidiary of W. R. Grace & Co. The Tarujhumaña mill is typical of small tin mills on properties developed by local individuals. Hand-cobbed and hand-sorted ores are packed from the mines in sacks on donkeys and llamas. The mill consists of water-driven stone arrastres to grind the ores, and series of circular buddles, in which the pulp is repeatedly concentrated until the desired grade of product is obtained. It is an equipment requiring the minimum outlay of capital, yet reasonably satisfactory results are obtained under the skillful manipulation of those long practiced



BAGS OF TIN ORE AWAITING SHIPMENT.

in the use of these simple devices. After the worth of the property has been established, capital can be secured to erect a more complete and modern mill. All who are acquainted with mining districts are well aware that this rational prudence is often disregarded, and expensive mills are erected, never to be put in operation. In this very region, in the Santa Vela Cruz Mountains, opposite the south end of the Quimsa Cruz Range, is such a monument. Here an American company, some years ago, made a lavish expenditure in the erection of the finest concentrating mill in Bolivia, only to find upon its completion that it had no ore on which to run the mill. After lying idle for some time it is now being dismantled to furnish equipment for the new Guggenheim property. The Tanapaca mine represents a Bolivian tin mine in its infancy. Its neighbor, the Araca mine, is the oldest working mine in the range. The deposit was discovered in 1900 by José Bueno, a gold miner of the region, and has been worked continuously by the commercial house of Harrison & Boettiger. Despite disquieting rumors and sinister reports concerning the kind of reception Americans would receive there, we boldly presented our letter of introduction to the German manager of the property, Mr. Hermann Remé, who at once dispelled any misgivings the most timid member of our party might have been secretly harboring by receiving us with most gracious cordiality and hospitality. Equally cordial was the interest of the other German members of the mine staff in the objects of our expedition. The living quarters at Araca are fitted up with that degree of comfort and convenience that the German seems to command no matter how remote his location, in contrast to the utter lack of the simplest physical comforts that characterizes so many of the mines situated in the cold, dreary Andean heights. Mr. Remé has spent 16 years in the district, and he was able to give us much useful information concerning the geologic problems we were working on, and especially to guide us in our itinerary through these difficultly traversable mountains.

The distance from Araca to Chojñacota is about 20 miles, but the difficulties of the trail are such as to make it a hard day's journey of ups and downs across transverse ridges and valleys. The only traffic over it is that of an occasional llama train, and the grades are adapted only to these animals. We were compelled over and over again to zigzag from side to side to ascend the steep declivities mounted by the llama trail and to traverse as much of the distance on foot as on the mules. The latter was not wholly unwelcome for the biting cold wind on the high ridges made one eager to forsake the saddle and even to supplement the exercise of walking by tugging at the lines of the reluctantly following mule. The scenery along the trail surpassed description. The utter desolation and lonesomeness of these



Photograph by Joseph T. Singewald, Jr.

THE EASTERN SIDE OF THE QUIMSA CRUZ RANGE IS NO WHIT LESS IMPOSING THAN THE WESTERN.



Photograph by Joseph T. Singewald, Jr.

THE CARACOLE'S MILL AT THE FOOT OF A GRANITE MOUNTAIN.

This mill is to be replaced by a larger and better equipped one by its new American owners.

mountain fastnesses is heightened by the Indian graves with their curious crude monuments encountered now and then, marking the spot where one of these humble Andean habitants had given up the fight against hostile nature. Likewise impressive are the larger pantheons, or graveyards, come upon at most unexpected places, seemingly symbolic of the abandonment of the locality to nature's worst. Such depressing meditations are but momentary and are interrupted immediately by an Alpine landscape that arouses one's enthusiasm and admiration almost to the point of shouting for joy and applauding the magnificent spectacle nature is spreading before him. A view into one of the U-shaped valleys with a pretty glacial lake in the foreground, with the pale blue ice of a glacier which fills the valley above the lake, and with the glacier higher up the valley fingering into a dozen sources near the summits of glistening white peaks that make the background of the picture, is adequate compensation for all the hardships of the journey.

The Chojñacota mines are operated by a Bolivian company which started work in 1915 and is now engaged in enlarging the scale of its operations. In the next valley to the south is the Monte Blanco property, which has been worked by a Chilean company for 16 years. Both of these properties have large modern mills.

The east side of the range has been developed to even less extent than the west and has only a few small operating mines. A large part of the granite area was acquired in 1919 by the Guggenheim Bros. and plans for large scale operations are being carried out. The veins contain unusually high-grade ores and are very numerous, proving a mineralized area of sufficient importance to warrant the large expenditures the present owners are making. The nucleus of the property are the old Caracoles, Argentina, Huanchaca, Pacuni, and other mines. An automobile road, 66 miles long, has been built from Eucalyptus on the railroad across the Santa Vela Cruz pass at an elevation of over 16,000 feet to the mines. The descent on the eastern side of the Andes is so abrupt that in two or three hours one can descend from the cold mists of the mines at 16,000 feet or more to an elevation of balmy temperatures and attractive vegetation. Following the policy of the large American companies to make Andean life as livable as possible for their staffs, the two days' mule ride has been replaced by the automobile, and steps have been taken to render available at the mines the agricultural products of the low-lying region to the east and to make that region accessible as a place of recreation and rest from the trying conditions of the high altitudes. When these new developments are completed the Caracoles district will undoubtedly rival the Uncia-Llallagua district, which now easily holds first place among Bolivia's tin districts, and place American capital in the front rank in Bolivian tin mining.

HOME FOR INTERNATIONAL TRADE-MARK OFFICE¹ ∴ ∴ ∴ ∴ ∴

On December 15, 1920, the President of the Republic of Cuba signed the following decree:

Whereas the law of July 3, 1918, contains in article 2, paragraph 1, the following provision: "The President of the Republic is authorized, whenever he may deem it convenient to do so, to cede gratuitously to the office of the International Trade-Mark Registration Bureau a piece of land belonging to the State within the municipal district of Habana for the construction of a special building for that office;" and

Whereas Dr. Mario Díaz Irizar, director of the International Trade-Mark Registration Bureau for the northern group, has requested the fulfillment of the law in respect to the cession of the land with a view to carry out the work contemplated therein; and

Whereas according to the report of Dr. José Rodríguez Acosta, chief of the division of records and property of the State, which has been approved by Dr. Leopoldo Cancio y Luna, secretary of the treasury, on the 3d of December, 1920, it has been made clear that the most suitable piece of land belonging to the State and available for the object of the said section of the law with due regard for the legal requirements of the State, is the section bounded by the streets Colon, Monserrate, Trocadero, and Zulueta, which has an area of 5,534 square meters, according to the records of the department of public works; and

Whereas in view of the contribution which Cuba is making to the international bureau by means of this cession of the land to which reference is made, as well as because of the fact that the situation of the land and its appropriateness for the purpose make it desirable that the plan be carried out as quickly as possible and under those conditions which best meet the requirements of the artistic and architectural arrangement of the city;

Therefore, I hereby resolve to grant freely, by virtue of the provisions of article 2 of the law of July 3, 1918, to the office of the International Trade-Mark Registration Bureau at Habana, established in accordance with the convention signed in Buenos Aires in August, 1910, the lot of land belonging to the Government located between the streets Colon, Monserrate, Trocadero, and Zulueta, in order that upon this lot there may be constructed the permanent home of the Trade-Mark Registration Office. And I make this grant on condition that the building contemplated shall be constructed, together with its gardens, adornments, and other furnishings, at a cost of not less than 1,000,000 pesos, the work to be begun within three years and to be completed within five years from the date of the deed transferring the property in land; and on the further condition that if it shall not have been begun within three years or finished within five years, the present grant shall be canceled and the State will recover the property in the land hereby ceded.

The secretary of the treasury is hereby charged with the execution of this decree.

On December 27, 1920, the Secretary of the Treasury, Señor Agramonte, signed the deed formally turning over the land to which reference is made in the decree set forth above.

¹ By Dr. Mario Díaz Irizar, Director of the International Trade-Mark Bureau at Habana.



A VIEW OF THE LOCATION SELECTED FOR THE INTERNATIONAL TRADE-MARK OFFICE, AT THE INTERSECTION OF MONSERATE AND COLON STREETS, HABANA, CUBA.

The building shown on the right is the new presidential palace.

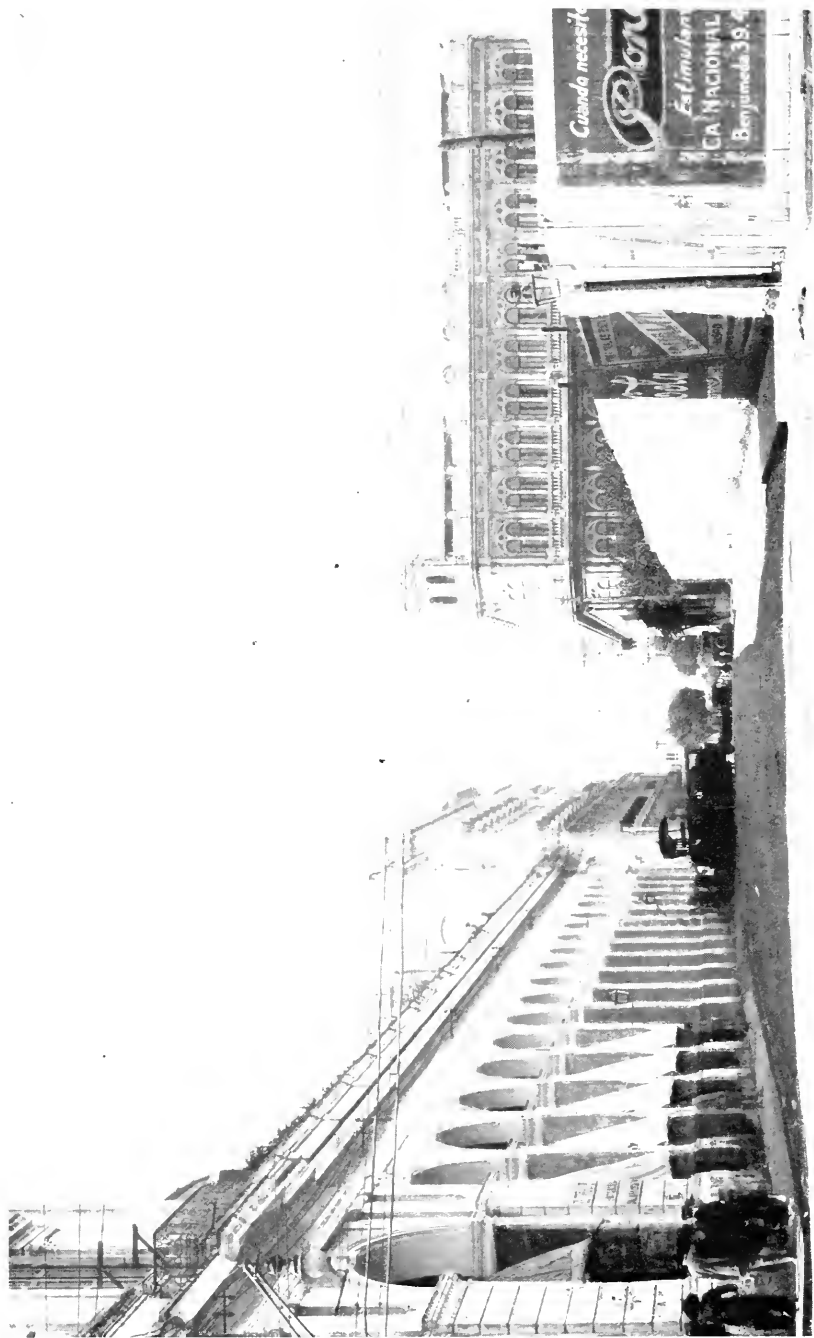


ANOTHER VIEW OF THE LOCATION, SHOWING THE PRESIDENTIAL PALACE IN THE BACKGROUND.

The decision of the President of Cuba to put a site, directly across from the magnificent new presidential palace, at the disposal of the Trade-Mark Registration Bureau was reached only after careful consideration on the part of the Chief Magistrate and his advisers, and does, in fact, constitute a gift of great value by the Government to the American Republics.

That, however, is not all that Cuba has done or proposes to do for the sister Republics in setting on the firmest possible basis this institution established to protect industrial property and good will within the jurisdiction of the American nations. In the first place, in the law of July 3, 1918, Cuba made a gift of \$25,000 toward the cost of constructing a building when a site should be provided, and contributed \$10,000 to the cost of maintaining the bureau. This was done without regard for relative quotas. It will be recalled that the administrative provisions of the convention of Buenos Aires of August 20, 1910, contemplated the support of the registration bureaus at Habana and Rio de Janeiro by the Governments ratifying the convention, ratably in proportion to their population as officially recorded, in much the same way as the Pan American Union at Washington is supported. So far as the two bureaus could not meet expenses from the fees paid to them for international trade-mark deposits through the machinery which they provide, it was expected that they would have funds appropriated for them by the nations constituting the respective groups. At the outset, of course, the nations in the northern group could not expect any of the expenses of operating the bureau at Habana to be borne by the nations of the southern group, even though the bureau at Habana was put freely at the disposal of those countries in the southern group which had ratified, or which might ratify the convention up to the time when the bureau at Rio de Janeiro might begin to function. It may be said in passing that while this offer on the part of the bureau, of which I have the honor to be director, was made to the countries in the southern group with the greatest cheerfulness, not to say eagerness, it was, after all, nothing more than the mere fulfillment of duty, inasmuch as the Habana bureau could not interpret the convention of 1910 otherwise than that it is in effect as between those countries which ratified it everywhere simultaneously, and from the moment when effect is sought to be given to it by the establishment of the bureau at Habana. Of course, we all look forward to the day when the bureau at Rio de Janeiro may undertake its share of the important work in the great southern continent.

Perhaps I have digressed a little in my recital of the various manifestations of Cuba's earnest desire that the aims of the convention of 1910 be carried out under the most satisfactory conditions. In addition to the contribution toward the cost of the building and



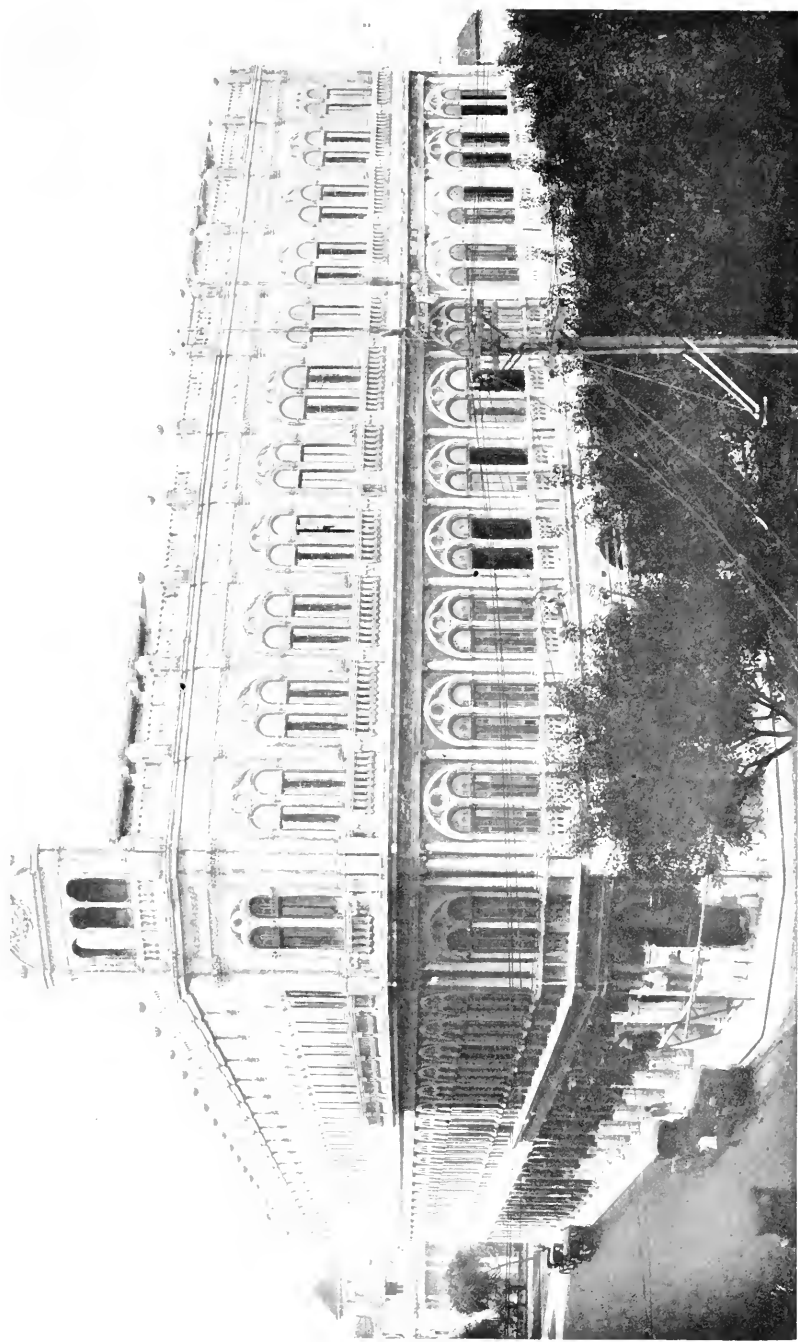
A THIRD VIEW OF THE LOCATION OF THE INTERNATIONAL OFFICE.

The building to the left is the market; the building to the back is the Centro de Dependientes.

her initial advance to the cost of maintenance of the office, Cuba has now under consideration legislation appropriating \$200,000 toward the cost of a special hall of the American Republics to be constructed within the permanent building, and fixing at \$12,000 a year the contribution hereafter to be made by Cuba toward the upkeep of the building and office. As a culminating evidence of the seriousness with which President Menocal and the people have approached this problem, I do not need to cite the exceedingly valuable gift of a piece of land, in the best possible location in Habana, having a market value of \$750,000.

No doubt the other nations which make up the group of northern Republics will see their way clear to take action appropriate to the circumstances of each in cooperating with Cuba to give the bureau at Habana the setting which so fundamental and significant a piece of international legislation as the trade-mark convention obviously merits. Not last among these assuredly will be the great Republic of the north, ever foremost in substantial manifestations of her genuine appreciation of the value of close association with the sister nations of this hemisphere. The merchants and manufacturers of the United States have not been slow to realize the value to them of the assurance of the protection of the good will of their industrial products, going in greater and greater volume to the Republics of Central, South, and West Indian America, and they will not withhold their hearty approval of any action taken by the Government of the United States looking to cooperation with Cuba and the other countries, in making the permanent home of the Habana bureau not merely a safe depository of priceless records, but a monument worthy of inter-American friendship and equity.

The bureau at Habana is now in active correspondence with the governments of all the countries in both groups that have ratified the convention. It proposes to carry on important duties intrusted to it without the slightest interruption during the time that must lapse between now and the completion of the building which will be its future home, and which, it is hoped, will represent the best architectural standards of the American Republics, since the cooperation of the architects of all the participating nations will be sought and turned to the best account. In its present location at 111 Manrique Street, Habana, the bureau will continue to receive, from each of the trade-mark offices of those countries which have ratified the convention, trade-marks to which it is desired that international protection be extended. Upon the satisfactory fulfillment of the simple regulations drawn up by the bureau, and approved by the governments of the northern group, each applicant for international protection is entitled to have his mark transmitted automatically, and as of the date of the filing of his application in his own domestic



THE CENTRO DE DEPENDIENTES.

The office of the International Trade-Mark Bureau will be to the right and across the street from the Centro de Dependientes.

trade-mark registration office, to the trade-mark registration offices of those countries which have ratified the convention. It will be understood by anyone who reads carefully the convention of August 20, 1910, that what the applicant substantially acquires is the right to be put on an equal footing with the nationals in each of the other countries that have ratified the convention, gaining no more nor any less than they, and be subject to domestic law precisely as much as they must be. If his mark is not registrable in a certain country because it is already registered in good faith he will be notified; and if for any other reason his mark can not be registered or admitted to protection within one or more countries, he will also be notified of such fact or facts. He is placed in the same position as persons registering marks originally in each of the countries participating in the union of reciprocity in the matter of trade-mark protection. In the United States a system of trade-mark protection prevails that is altogether distinct from the system prevailing in some of the other American countries; and an applicant for trade-mark protection in one of these countries merely acquires in the United States the right to be dealt with precisely as an original applicant for domestic protection under the trade-mark laws of the United States.

I believe the simple interpretation of the trade-mark convention, to which I have ventured to hint in the foregoing paragraph, is receiving general acceptance among those who have occasion to consider this matter. Any international bureau has a long period to traverse, during which opinion is crystallizing and precedents are being set. Difficulties arise and must be studied and must be solved. After some two and a half years' active association with the international efforts to give effect to the trade-mark convention of 1910, I feel the very greatest confidence that we have the hardest part of the road behind us and that all the difficulties that present themselves in the future will be met and disposed of successfully. I feel, too, that those difficulties which can not be solved by study and interpretation, but which may require formulation in a protocol to the convention of 1910 to be adopted at some convenient international gathering of American States in the future, will never be cause for apprehension or confusion. In fact, by virtue of the authority conferred upon the bureau in the convention of 1910 that office will, if when and as occasion demands, lay before the participating Governments its own suggestions as to the amendment of the organic instrument under which it operates, with a single eye to the best effectuation of the great purpose of securing expeditiously and inexpensively the protection of every proprietor of a trade-mark in the enjoyment and proper use of this important adjunct to his protection, often quite as valuable as the patented processes by which the product itself is manufactured.

CONSTITUTIONAL TENDENCIES--LATIN AMERICA¹

By HERMAN G. JAMES.

THE last few years, as is well known, have constituted an era of important constitutional developments the world over. The adoption of the eighteenth and nineteenth amendments to the United States Constitution, the passage of the British representation of the people act, and the adoption of proportional representation in France, are among the more important changes made in existing constitutions; while Germany and Russia have adopted wholly new fundamental laws, and the newly created States, such as Poland and Czechoslovakia, have framed constitutions for the first time. These developments have all received widespread notice and are sufficiently familiar to practically all students of government in this country. At the same time, however, that these much-heralded developments have been going on, developments of a like nature have occurred in countries much nearer the United States with whose fortunes the interests of the United States are more closely bound up than with some of the European States. In spite of their proximity and more immediate interest to us, however, these Latin American developments have received but scant attention in this country. It may not be inappropriate, therefore, in such a meeting as this, to devote some time to a brief consideration of the more significant constitutional developments of recent years in that portion of the world, with a view especially to discovering, if possible any general tendencies that have made themselves manifest in the course of these developments.

It would not be possible within a reasonable space to discuss all of the important governmental developments in Latin America that have occurred within the last few years. As in the United States, so in Latin America, many governmental changes occur which are of such fundamental nature that similar measures in Great Britain would be regarded as changes in the British constitution, and yet inasmuch as they do not alter the text of the instrument known as the constitution, they are not technically regarded as constitutional changes here. It is a matter of common knowledge that such developments may, in fact, be of greater significance than some of the formal amendments, but within the limits of this discussion only

¹ Paper read on December 30, 1920, at a joint session of the American Political Science Association and the American Historical Association held at Washington in the hall of the Americas, Pan American Building. Dr. James is a member of the faculty of the University of Texas.

formal constitutional changes will be considered. Furthermore, in order to keep the subject matter within reasonable bounds, only three of the major developments of this nature will be taken up—namely the new constitutions that went into effect in Mexico in 1917, in Uruguay in 1919, and in Peru in 1920, respectively.

The new Mexican constitution of 1917¹ has received more attention at the hands of American publicists than have the very recent instruments promulgated in the other two States. But attention in this country has been largely concentrated on the provisions in the new constitution relating to the nationalization of natural resources and the effect of these provisions on the rights acquired by foreigners, particularly Americans, in mines and oil lands. Other significant features have been more or less ignored.

Among the more significant of the provisions to be noted in the new constitution are those intended to discourage dictatorships in the presidential office. We find that the new constitution, for instance, insists that no one belonging to the army may become President unless he shall have retired from active service 90 days immediately prior to the election.² Furthermore, no one who has taken part, directly or indirectly, in any uprising, riot, or military coup is eligible.³ It is true, of course, that the influence of the United States Constitution was largely responsible for the original creation of strong executives in the Latin American constitutions. It is also true, however, that political conditions in many of those countries for nearly a century after independence favored, if indeed they did not demand, personal dictatorships with much more actual power than that of the President of the United States. As conditions improved and opened the way for more representative government, the evils of military dictatorships began to outweigh the advantages: but the political practices of 75 years were too firmly established to be discarded easily. Hence it became necessary to discourage the continuation of these executive traditions by forbidding in constitutional provisions some of the developments which had been found to be favorable to their continuation. Among these traditions, obviously, was the one by which the way to the presidency was open principally, if not solely, to military leaders. In the same sense the institution of the vice presidency, which has been in the United States the object of general ridicule, but which has proved in some of the Latin American countries to furnish a basis

¹A convenient translation of the Mexican constitution of 1917 is to be found in the Supplement to the Annals of the American Academy of Political and Social Science for May, 1917, which sets forth the terms of the new instrument in parallel columns with those of the constitution of 1857 which it superseded, indicating by means of italics and black face type the innovations and omissions respectively in the later document.

² Constitution of 1917, art. 82, V.

³ *Ibid.*, art. 82, VII.

for intrigue and plots against the administration, has in the new constitution been omitted altogether. Succession to the presidency in case of a vacancy in that office or permanent disability of the president is determined by the action of the Congress in choosing a president ad interim, and calling a new presidential election, if the vacancy occurs during the first half of the president's term of office. If the vacancy occurs in the latter half of the term, the Congress shall choose the president for the remainder of the term.⁴ The permanent ineligibility of the president for reelection is continued in the new constitution, and the term of office is reduced from six to four⁵ years. In some other respects the importance and dignity of the presidential office are diminished in the new constitution. On the other hand, the power of the president to suspend the personal guarantees of the constitution in cases of invasion or other emergency, with the concurrence of the council of ministers and the approval of congress, is somewhat broadened in the new instrument by removing the limitation contained in the former document excluding those guarantees insuring the life of man.⁶

Another subject of general significance dealt with in the new constitution is the relation of the church to the state. It will be remembered what a position of influence was occupied by the Roman Catholic Church in the Latin American colonies prior to their independence, and what an important rôle in the politics of the new Republics was played by the question of whether that position of influence should be continued or diminished. The famous plan of Iguala in 1821 committed Mexico to the maintenance of the Roman Catholic Church in its favored position, and the republican constitution of 1824 also expressly established it as the state church and prohibited the exercise of any other religion. In the constitution of 1857 this declaration was omitted, and members of the clergy were excluded from the offices of senators and representatives, the federal government being given exclusive power to exercise intervention in matters of religious worship and outward ecclesiastic forms. By an amendment in 1873 the church and state were declared independent and the establishment or prohibition of any religion by law was forbidden. Marriage was declared a civil contract and the power of religious institutions to acquire real estate was limited. But the new constitution goes into these questions much more fully. In addition to incorporating the provisions of the preceding constitution on this subject, the constitution of 1917 abrogates the juridical personality of churches; subjects ministers of religious creeds to the laws governing the exercise of a profession; forbids ministers to criticize the fundamental laws of the country or the authorities in particular or the government in general; prohibits their assembling for political purposes; and

⁴ Art. 84.⁵ Art. 83.⁶ Art. 29.

deprives them of the right to vote or hold office. Furthermore, religious publications are forbidden to comment upon political affairs in any way.⁷ Finally, it is to be noted that public instruction is made secular, and that religious authorities are forbidden to establish schools of primary instruction.⁸

A third feature of note in the new constitution of Mexico, and one that has received considerable attention from foreign students of Mexican Government, is the emphasis placed upon the amelioration of social and economic conditions. These measures may be grouped under two general heads—the control of corporations and the protection of labor. We are, of course, well acquainted with a similar tendency in constitution making in this country, but the Mexican constitution goes considerably further in these matters than have any of our State constitutions.

The new constitutional provisions on these matters are contained largely in articles 27, 28, and 123 of the 1917 constitution. Article 27 expressly preserves to the nation the right to impose such limitations on private property as the public interest may demand, enumerating specifically such undertakings as the division of the large landed estates and the development of small landed holdings; definitely vests in the nation direct ownership of all minerals and of all navigable and territorial waters; and specifies the conditions under which concessions shall be granted to private individuals or corporations. The ownership of lands and waters and the acquisition of concessions to develop mines, waters, or mineral fluids is limited to Mexican individuals and corporations, or to foreigners who agree to be considered as Mexicans in respect to such property and not to invoke the protection of their governments in respect to the same under penalty of forfeiture to the nation of property so acquired. Foreigners are absolutely prohibited from acquiring direct ownership of lands or waters within a zone of 100 kilometers from the frontiers and of 50 kilometers from the seacoast. These are among the provisions which have stirred up the antagonism of the foreign investor to the greatest extent, for if applied to existing concessions and property they would amount to nullification of rights already acquired. It is not possible here to enter into a discussion of the wisdom or even of the legality of these new measures affecting foreign capital invested in Mexico, but no one who is at all familiar with the intimate connection between the activities of foreign investors and many of the most serious internal disturbances and foreign difficulties of Latin American politics need look far for their explanation.

An interesting provision with regard to the right of expropriation for a public use bases the amount of compensation to be paid on the valuation of the property for purposes of taxation.

⁷ Art. 123.

Art. 3.

Article 28 prohibits monopolies and exemption from taxation, but expressly excludes associations of labor organized to protect their own interests from the definition of a monopoly.

Article 123 lays down in great detail the principles which shall guide the making of laws relative to the labor of skilled and unskilled workmen, employees, domestic servants, and artisans, and in general every contract of labor. The eight-hour day; the protection of women and children workers against night work and unhealthy and dangerous occupations; one day of rest in seven; safeguards for motherhood among women workers; minimum wages; overtime payment; housing of workmen; the right to strike; conciliation and arbitration boards; free employment bureaus; and social insurance of the most comprehensive kind, are all insisted upon as fundamental features of the regulation and protection of labor. It is in respect to these matters that the Mexican constitution goes further than have even the most advanced of our State constitutions in this country.

There are many other innovations in the Mexican constitution of 1917 which would be worthy of presentation did time and space permit. It will be possible to mention only one or two of them, however, which are of especial significance in our attempt to trace constitutional tendencies in Latin America. Among these may be noted the constitutional establishment of the free municipality with a large measure of local autonomy;⁹ the direction to the federal congress and to the State legislature to enact laws against alcoholism;¹⁰ and the provision for compulsory education.¹¹

It will be noted as a general characteristic of the 1917 constitution that the tendency found in our own constitution making to include legislative detail in the fundamental law has shown itself in a marked way. The reason, of course, is the same in both cases—namely, the experience of the past in demonstrating that the constituted authorities could not be trusted to do or to refrain from doing what they should do or refrain from doing unless directed or restrained by a superior authority. Unquestionably, however, just as the same reasons prompted the adoption of the practice of detailed legislation in the constitution in the two cases, so also the defects of this procedure will make themselves felt in Mexico as they have in this country.

The new constitution of Uruguay went into effect on March 1, 1919.¹² It replaced the constitution of 1829, which embodied the constitutional ideas of the revolutionary period, as its adoption followed

⁹ Art. 115.

¹⁰ Art. 117, VIII.

¹¹ Art. 31.

¹² A translation of the new Uruguayan constitution may be found in *Southwestern Political Science Quarterly*, Vol. I, No. 1, June, 1920, pp. 95-118. The constitution of 1829 is translated in *Rodriguez, American Constitutions*, Government Printing Office, 1906, Vol. II, p. 158.

immediately upon the declaration of independence in that country. It would be natural, therefore, that the differences between the old constitution and the new in Uruguay should be, in a manner, even more marked than in the case of Mexico. It would be natural, also, that the constitutional convention, which completed its work in October of 1917, should have been much influenced by the new constitution of Mexico, which became operative in May of that year. It will be helpful, therefore, to view the innovations in the Uruguayan constitution in comparison with the more important features of the Mexican constitution considered above.

In the first place, then, we find that the new constitution reflects the altered attitude toward the place of the Roman Catholic Church, already noted in the case of Mexico above. The clause of the older constitution recognizing the Roman Catholic religion as the religion of the State is omitted, and the new instrument expressly declares not only that all religious cults are free but also that the State supports no religion, although it accords to the Roman Catholic Church the control of places for worship only already constructed in whole or in part out of funds from the national treasury.¹³ Unlike the Mexican constitution, however, members of the clergy are not prohibited by this instrument from being chosen as representatives or senators.

In the next place, we see in Uruguay as in Mexico a strengthening of the principle of local self-government. In place of the *jefes políticos*, formerly in charge of the Departments on the model of the Napoleonic prefects, the new constitution prescribes popularly elected assemblies, and autonomous councils of administration chosen in the same manner, to regulate the local affairs of the Departments, with control over the municipalities.¹⁴ The office of the chief of police in each Department remains, however, under central control, appointed and removed by the president and paid out of the national treasury.¹⁵

Most interesting and significant of the alterations in the new constitution are those relating to the executive power. The office of the president is made directly elective by the people instead of by the legislature, as under the old constitution, the preferential ballot being prescribed.¹⁶ The president, who serves for four years, is not perpetually ineligible for reelection, as in Mexico, but the interval that must elapse between a first and a subsequent term has been lengthened from four to eight years.¹⁷ More important, however, than these changes in the characteristics of the office is the adoption of a wholly new principle with regard to the executive power in that

¹³ Constitution of Uruguay, 1919, art. 5.

¹⁴ Arts. 139-142.

¹⁵ Arts. 143-145.

¹⁶ Art. 71.

¹⁷ Art. 73.

this is now shared by the president with a popularly elected council of administration of nine members. Broadly speaking, this council is charged with the administrative functions of the executive, such as the appointments of certain ministers and other high officials, and the direction of various services of the State, while the president retains the political functions of the office, such as foreign relations, the naval and military activities, the preparation of the budget, and the preservation of internal peace and order. It is seen, therefore, that the office of president in Uruguay has not only been brought more directly under the control of the electorate, but has very materially been diminished in importance. It seems that this feature of the new constitution has met with approval, since "it is now proposed to do away with the office of President altogether and intrust the conduct of government to a commission of 11 members."¹⁸

Another interesting innovation in the constitution of 1919 is the establishment of proportional representation as the electoral principle for choosing all elective bodies,¹⁹ following the example of France and Germany and many other European States that have recently adopted this system. In this connection it may be interesting to note that the constitution sanctions the adoption of woman suffrage for national or local elections, but requires for its adoption a two-thirds majority of all the members in each chamber of the legislature.²⁰

Other respects in which the new constitution of Uruguay has not followed the lines laid down by the earlier Mexican instrument include the omission of the elaborate provisions relating to labor and social welfare, though the bill of rights in the Uruguayan document is more comprehensive than in the former constitution. Among other things the death penalty has been abolished, in spite of, or because of, or perhaps in ignorance of, the recent experiences of Russia in that regard. But in extending the exercise of the right of eminent domain to cases of public utility as well as of public necessity, Uruguay is again following the precedent of Mexico. On the other hand, compulsory free education is not prescribed in Uruguay.

The last of the new Latin American constitutions to be considered here, that of Peru, was promulgated on January 18, 1920.²¹ It shows clearly traces of the influence of both of the constitutions already considered, especially that of Mexico. It replaces the constitution of 1860, an instrument of a later date, therefore, than the former constitutions of Mexico and Uruguay.

¹⁸ Political Science Quarterly, Vol. XXXV, No. 3, September, 1920, Supplement, p. 91.

¹⁹ Art. 9.

²⁰ Art. 10.

²¹ At the time of writing no English translation of the new constitution was available. A brief but instructive note on the new constitution may be found in the Bulletin of the Pan American Union, April, 1920, pp. 457-460. An English text of the earlier constitution of 1860 may be found in Rodriguez, American Constitutions, *cit. sup.* Vol. II, p. 254.

The first point worthy of note here with regard to the new constitution is the changed attitude reflected even in Peru as regards religion. Just as Peru was the last stronghold of Spain in America, excepting the island possessions, so also it is one of the Latin American countries in which the Roman Catholic Church and religion have clung most successfully to their former privileged position. In the constitution of 1860, as in the earlier constitutions of Mexico, the Roman Catholic religion was not only the established form of belief, but the exercise of any other religion was prohibited. Under the new constitution the nation continues to profess and to protect that religion, but the prohibition of the public exercise of any other religion is repealed. Peru has, therefore, even now not gone as far in the direction of separating church and state as have Mexico and Uruguay.

In the next place we note the influence of the Mexican constitution in the new provisions with regard to the chief executive. The president, chosen by direct popular vote, serves, it is true, for five years instead of four,²² but no member of the military or of the ministry can be elected president unless he has laid down his office 120 days before the election.²³ As in Mexico, also, the office of vice president is done away with in the new constitution. On the other hand, the example of Uruguay in limiting the powers of the president by entrusting some of his formerly plenary powers to other officials seems to have had an influence in the formation of the council of state of seven members appointed by the council of ministers with the approval of the senate.²⁴ It is not determined in the constitution just what the rôle of this council of state shall be, as the provision in the fundamental instrument leaves it to the law to determine the cases in which the government must hear their opinion and those in which it can not proceed contrary thereto. The principle of parliamentary government is, moreover, laid down in the provision that cabinet officers must resign after either the senate or the chamber passes a vote of lack of confidence, a provision which, if observed, would mark a change from the presidential to the cabinet form of government.

Other respects in which the constitution of Mexico has evidently served as a model for the new Peruvian constitution are to be found in the inclusion of provisions regarding the position of foreigners, the extension of the right of eminent domain, the control of natural resources, the prohibition of monopolies, and the position of labor. As regards foreigners we find a provision almost identical with that noted in the Mexican constitution prohibiting them from acquiring or possessing directly or indirectly any right to lands, waters, or mines within 50 kilometers of the frontiers.²⁵ Furthermore, the prop-

²² Title 7.²³ Art. 120.²⁴ Art. 134.²⁵ Art. 39.

erty of foreigners is not to be accorded a position of especial favor, and they themselves are not to resort to claims through diplomatic channels. The extension of the right of eminent domain expressly authorizes the state to take over under that power, transportation by land, sea, or air, and any other public service.²⁶ As in Mexico, all mineral products are declared to be the property of the state.²⁷ Monopolies, except government monopolies, are forbidden, much as in the Mexican constitution, but the constitutional provisions regarding the protection of labor, while recognizing the principles enumerated in the Mexican constitution regarding hours of labor, wages, health, insurance, compensation, and arbitration, are not only much briefer but are purely directory to the legislature.²⁸

Other provisions of the new constitution that follow closely the Mexican example are the provision for compulsory public education for both sexes in the primary and intermediate grades, for secondary and higher education under the protection of the State, and for recognition of the teaching profession; and also the conferring of a larger measure of municipal autonomy upon the municipalities, which up to the present, as in most Latin American countries, have been administered more on the French principle of central administrative control and direction than on the principle of local self-government.

In the provisions of the new constitution abolishing the minimum income requirements for eligibility to the chamber of deputies and the senate we see a further instance of the extension of democratic principles. Of interest also is a provision establishing three regions or districts—one for the north, one for the center, and one for the south of the Republic, with a legislature for each, composed of members chosen by the provinces and authorized to enact local measures for the districts, subject to approval by the president or, in case of his refusal to enforce them as contrary to the general laws or the national welfare, to the congress, which may enact them in the same way as vetoed laws.²⁹

Other interesting provisions of the new Peruvian constitution would be worthy of consideration here did time permit, especially those relating to the judiciary, the guarantee of the graduated income tax, the prohibition of dual-office holding, the protection and development of the indigenous race, the power to control the price of articles of consumption, and others; but enough has been said to indicate the general principles underlying the new instrument.

We may now, though mindful of the fact that we have considered but 3 out of 20 Latin American constitutions, and also of the fact that these 3 show some material divergencies among themselves,

²⁶ Art. 44.²⁷ Art. 42.²⁸ Arts. 47-49.²⁹ Art. 140.

briefly sum up what would appear to be the constitutional tendencies in Latin America to-day, as indicated by the documents under consideration. First may be mentioned the definite recognition of the principle of religious toleration and the evident trend toward complete separation of church and state. Second, may be noted an evident advance toward greater political democracy, as shown by the widening of the suffrage, direct in place of indirect elections, less exclusive requirements for office holding, and the recognition of the principles of local self-government for municipalities in place of local administration by central authorities. Third, there is the striking tendency to get away from the era of dictatorships in the presidency by placing obstacles in the way of military and revolutionary leaders in the securing of office, and by prohibiting reelections. Fourth, and closely related to the tendency just noted, is the inclination to limit the powers of the office itself by requiring the participation of the senate or of the congress in the exercise of the appointing and treaty-making powers; or, as in Uruguay, by creating a supreme administrative power alongside of the president; or, as in Peru, by laying down the fundamental features of the cabinet or parliamentary system of government. Fifth, may be mentioned the definite recognition in the new constitutions of the fundamentals of social democracy in the requirements for compulsory free public education, the safeguarding of the rights of labor, the prohibition of monopolies, the nationalization of natural resources, and the extension of the right of eminent domain to include the taking over of public utilities and services. Sixth and last is the attempt to prevent the exploitation by foreign individuals and corporations and to avoid the international complications that result therefrom by restricting the rights of foreigners in the acquisition of lands and concessions and forbidding the resort to diplomatic channels for the enforcement of claims.

As regards religious toleration and political democracy, it would appear that these Latin American States are but now approximating conditions which have long since been firmly established in the United States. As regards the tendency to depart from the principles of presidential government and to approximate the parliamentary system they are aligning themselves with most of the other civilized countries of the world and getting away from the example of the United States, which was formerly so potent a one. The same thing is true of the adoption of the principle of proportional representation. In the developments toward social democracy these countries are leaving the United States behind, at least so far as constitutional declarations are concerned. And finally, in their treatment of aliens in relation to property rights, they are dealing with a situation which the United States has fortunately never had to face to any appreciable extent, but which some of the far Western States are on somewhat

different grounds attempting to handle in somewhat the same way. It would seem to be time, therefore, that we abandon altogether the attitude of superiority toward our Latin American neighbors, which has unfortunately been all too common among certain of our wise men, and that we turn with a frank interest to the study of political conditions and experiments there which may not be altogether without value to us in the solution of our own serious problems.

PUBLIC AND PRIVATE CREDIT IN LATIN AMER- ICA¹ ∴ ∴ ∴ ∴ ∴ ∴

THE public obligations of a country, upon which are based its public credit, may be classed under four heads—external obligations, internal obligations, floating indebtedness, and paper currency.

External obligations are bonds or notes issued in connection with credit obtained outside the country. These may be for internal improvements, railroads, port works, and the like contracted for with foreigners, or they may represent indebtedness of a more general nature.

Internal obligations represent indebtedness evidenced also by bonds or notes issued for funds borrowed within the country or in settlement of contract work or other claims of its own citizens; or of foreigners on a domestic footing.

Floating indebtedness consists more or less of current indebtedness for which no note, bond, or other long-term obligation has been issued.

The other form of indebtedness, internal in its nature, is the paper currency; and the paper currency of every country is one of the most important evidences of credit either secured or unsecured. The quality of Government administration is determined by the quality of its currency.

Nominally all paper currency is issued on a parity with coin, gold, or silver, as the standard may be, although in connection with the Latin American countries it is unnecessary to consider the silver standard, which theoretically applies only to Guatemala and Salvador. Paper currency in its simplest form is merely a promise to pay gold. The promise may not be expressed; it may be implied, the essential

¹By John H. Allen, president American Banking Corporation.

fact being that the Government or the bank issuing the currency so conducts its business as that Government or bank paper money is in fact exchanged for gold at the option of the holder. As long as this condition exists—i. e., as long as the exchange can be made, no matter through what channels—paper remains at par, but when the exchange is no longer made, the credit of the paper issues begins to decline, and this decline finds its measure in what is called the gold premium. The tendency, apparently almost the irresistible tendency, in all newly developing, especially if they be at the same time debtors, countries is to allow gold to go to a premium. This makes cheap money and is supposed to be favorable to internal development. The disposition to have a cheap monetary unit is typical of every agricultural and mining country, and is true of the Latin American countries, all of whom are in their infancy in so far as industrial development goes. In order to keep the cost of production down there must be cheap labor, and under conditions ordinarily prevailing in Latin American countries cheap money tends toward cheap labor. The producer pays for production in native currency; he sells on the basis of foreign currency.

In some respects conditions are similar in all of these countries, while in others they are diametrically opposed. To one not informed regarding Cuba, the newspaper articles of the past 60 or 90 days would develop the impression that commercial and financial conditions were hopeless. Cuba started to go through her post-war readjustment much sooner than was expected, and the quick development was brought about as a result of inflation, heavy overimportation and speculation in certain foodstuffs, principally in sugar. The price had been steadily rising until from 6 cents per pound at the beginning of last season's crop it rose to 25 cents. Important interests held large amounts for even higher prices, and some of the banks made this possible by loans at high valuations. Sugar began to drop and banks could not realize on the loans, which fact was quickly known, with the result that runs started on all of the banks, foreign as well as domestic, quickly resulting in a situation necessitating governmental interference, which came in the form of a moratorium on October 10. This is still in existence and will probably run well into the grinding season, when, with the manufacture and shipment of the sugar crop, financial conditions will become somewhere near normal.

Fundamentally, Cuba is absolutely all right. What she needs is time to digest the stocks of merchandise and to move her products to market. The elimination from the business life of Cuba of one or two weak and poorly managed banks will be of real benefit.

Cuba's credit is good, and the credit of her people is good. They are always large borrowers, especially the sugar planters and sugar-mill owners. These require large amounts for crop-growing expenses

and for replacing and replenishing the mill equipment. They borrow during the dead or crop-growing season, repaying the loans with the proceeds of the crop. The record of payment of sugar loans in Cuba is one of which Cuba may well be proud. The local banks provide for a larger proportion of credit requirements, but a large amount is furnished by the United States, one reason being that so many sugar estates are owned by Americans who frequently prefer to borrow here, at times for reasons of economy, though that would not apply to-day. There are excellent banking facilities all over that island, and foreign banks enjoy high favor. Cuba has no paper currency of her own, American currency being the circulating medium; so she is free of this liability.

Up to the beginning of the Diaz administration years ago, Mexico's credit in the world's financial market was very poor, but under his wise and firm control, aided by the ablest financial minds of his country, the public credit of Mexico toward the end of the last century was at par, and her bond issues enjoyed a ready and favorable market. To-day both public and private credits are out of favor, and while there is plenty of credit available, Mexico must show that stability of government is to exist before it can be utilized. The nation's finances to-day, as far as we know, are not in bad shape. There is no paper currency in circulation: that is, there is no paper money in circulation enjoying legal-tender privileges. There are the notes of former banks of issue, perhaps five or six in all, and while these do not circulate, they are traded in freely and treated more or less as a speculative investment, selling at from 10 to 50 cents on the dollar, according to the bank which made the issue. If the price at which these shares of these closed banks change hands is indicative of the actual value, then the quotation for the bank notes is out of all proportion. For example, the shares of the National Bank of Mexico are quoted at 75 per cent, while the notes—a prior lien on all assets—are quoted at 50 per cent. Gold and silver are the mediums for settlements. The national revenue is enough to provide for the service of all the foreign loans if reasonable economy is practiced and the revenue honestly and intelligently administered. Mexico does not need to borrow new funds. The important thing to do is to resume the payment of interest, and make suitable provisions for what is now in default. Possibly—and this is the thought of President Obregon—a consolidation of all external loans and funding of all defaulted interest and amortization payments may be made and a fresh start begun. The total national debt of Mexico, including the seven years' defaulted interest on its external debt, as well as on the railroad bonds, the interest of which is guaranteed by the Government, is something under \$750,000,000, which is a very small national debt for a country of the size and with the resources of Mexico, with

normal conditions existing. The vast and rich resources of Mexico, agricultural and mineral, will offer ample security and profit for capital, which, until the recent succession of revolutions set in, always found ample returns.

The three more important of the South American Republics are Argentina, Brazil, and Chile, each resembling the other in many ways, but presenting strong contrasts in national finance. In Argentina we find the currency system on an excellent basis, amply secured, but not sufficiently elastic. About 20 years ago the then finance minister, Edward Tornquist, worked out a monetary reform and established order in the nation's finances. Prior to that time the history of credit in Argentina was one of overissues unsecured, or but partially secured, repudiated issues, and frequent bank failures. The reorganization referred to included that of the national bank, which since then has become a strong institution, capably directed, and the financial mainstay of the Government. The issue of paper money is apart from the bank, and under control of the board, where political influence has not so far been allowed. This board is in control of the gold reserve back of the paper, and the Argentinos are justly proud of the character of the direction and of the system.

The history of banks in Argentina is an interesting one. The first one was established about 1820, and commerce and industry began to break away from barter as the means of settlement, and the use of drafts or bills of exchange. Bank after bank was established, all with about the same life history of bad management. Right of issue was easily obtained and as quickly availed of, and the public was naturally wary of paper currencies. Various reorganizations of the national bank in Argentina resulted in the final development of the present Banco Nacional, possessing large capital and which pays no dividend, all the earnings being added to surplus, with the exception of a certain percentage, which is applied to the country's currency reserve. This bank, though an independent organization, is controlled by the Government, and all financial transactions of the national Government pass through the bank. Branches are established in every city, town, and village of the Republic and as a result the banking service is as good as can be desired. There are 25 principal banks in Buenos Aires to-day, nine of which are native, the others being foreign. Some of the foreign banks have branches outside of Buenos Aires, but only in the most important places.

London bankers have heretofore generally supplied the federal government, provincial, and city requirements of Argentina, with one exception prior to the war, and that was in 1909, and later on during the war, when the American market was sought. Baring Brothers have for many years been recognized as the bankers for Argentina,

and when the loans just referred to were made in the United States Barings participated in the syndicate and no doubt will endeavor to maintain their position as the Government's bankers. There is no better national credit risk in the whole of Latin America than the Republic of Argentina. Its national debt is moderate, the finances are well administered, and the country has an excellent record for meeting its obligations. The country is an enormous producer of raw stuffs and exports wool, hides, grain, corn, meat, etc., in such volume as to have developed during the last five years a total trade balance in her favor of \$1,500,000,000. Two years ago, the record year, showed a balance of \$375,000,000; for the year 1920 the balance is near \$130,000,000. There is an excellent basis for credit, and as the country, with the increase in population, develops its agricultural resources, it bids fair to become one of the richest nations of the world. Vast areas of land held under single ownership has retarded development, but taxation and increase in population will remedy that.

The trade figures just quoted indicate the prosperity of the individual rather than that of the national Government, for, while the latter benefits by the import duties and also the export duties (for some exports are taxed—a thing which in normal times is unscientific and apt to act as a deterrent on production), the large profit goes to the merchant, exporter, farmer, and producer. These are all large seekers of credit, as is bound to be the case in a rapidly developing country. Credit risk of the Argentine merchant is good. The standard of business morality is high, and when competent judgment has been exercised in the granting of credit the result as a rule has been satisfactory.

Perhaps the one country outside of the British Empire where British capital has done more than anything to develop has been Argentina. While the Argentinos are a progressive and thoroughly competent people, the rapid and extensive progress of the past 25 or 30 years is due to foreign capital advanced for and invested in, railroads, street-car systems, electric and gas works, and the wonderful port development of Buenos Aires. Only about 20 years ago steamers arriving at that port had to lay away offshore, discharging passengers and cargo into boats for conveyance ashore. Now, as a result of river dredging, building of bulkheads, wharves with the most approved machinery for loading and unloading, and warehouses of vast capacity, Buenos Aires is one of the finest ports in the world as far as wharf facilities are concerned. This has contributed to the development of both exports and imports, and the quicker and cheaper handling of the vast grain, wool, hides, and other products which leave the ports of Rosario, Bahia Blanca, and Buenos Aires. These port works were constructed as much with a view to

the future as of the present, for the potential productivity of that vast and fertile country back and to the south of the Rio de la Plata is capable of furnishing through its wheat, corn, cattle, and wool, food and clothing for the whole of Europe—a country wonderful in potentiality, held back in development only by population, limited as it is to some 8,000,000 people. The people of southern and central Europe would find there a new world, far away from the scenes of horror with which they have been living and where life could be begun anew. A tide of immigration toward that section seems highly probable.

Credits in Chile have for many years run along very much the same lines as in her neighboring country on the east side of the continent. The people are the same in race, ideals, and standards. The finances of the National Government are to-day in very good shape, the national credit is good, and her bond issues have heretofore enjoyed an excellent market in London, where most of her financing has been done. Both British and German influence has been strong in Chile, and her external borrowings have generally been provided for jointly by London and Berlin bankers. The Chilean army for a long time was trained by German officers, which no doubt accounts for the quite strong pro-German feeling which for a time existed in Chile during the war. She has something like 20 different bond issues, the total of which is in reasonable proportion and the national income is sufficient for all requirements. A large part of this income is derived from the revenue from the vast nitrate fields of Chile which is paid to the Government largely through the medium of sterling draft on London, the proceeds of which are applied to interest and amortization requirements and to building up the balances of the Chilean Government in London, where for many years Chile has carried her balances abroad. This in the last year or two has been modified to some extent and substantial amounts have been carried in the United States. Sterling is legal tender in Chile and the coinage law fixes the parity of the peso at 18 pence. Chilean merchants are as good a credit risk as are those of any other country. By far the larger part of the railroads in Chile are under Government ownership and are free of any bonded indebtedness. They represent a very large payment, owing to the heavy cost of construction, and provide a very important and valuable asset to the National Government, although it is very doubtful whether or not they are operated at a profit.

For the successful and profitable development of Chilean products her statesmen have believed that cheap labor to be secured by cheap currency, is necessary. The coinage law which went into effect in 1898 provided for the redemption of the paper currency on January, 1902, at the rate of 18 pence sterling per peso. When the time

arrived the redemption provision was deferred until January, 1905 when it was again deferred until 1910, and so on from year to year redemption has been deferred up to the present. The amount of currency outstanding is approximately 150,000,000 pesos.

There is an emergency currency also in existence in Chile to-day, with between 12,000,000 and 15,000,000 pesos outstanding, and which is secured by a deposit of gold redeemable on presentation. Under this law institutions of credit in Chile could obtain paper pesos against a deposit of 12 pence sterling per peso, while individual interests could obtain paper pesos only against a deposit of 18 pence per peso, the credit of the bank withdrawing the pesos being considered ample protection for the remainder of the reserve. So we see in Chile a country with its paper circulation amply secured by gold, with the machinery for stabilizing and maintaining the par of the peso already to operate, but with its operation deferred, with a consequent result that during the last three or four years the high and low range of Chilean exchange has been from 9 to 17 pence to the peso, and it is these extreme fluctuations and instability of currency that make exporting and importing so difficult.

Both the Germans and English, before the war, were important factors in the development of the resources of these Latin countries, and for that matter were active in all parts of the world. They long years ago learned that trade followed the pound or the mark, and where permanent capital investment took place, permanent trade went with it. In this the Germans were characteristically more thorough. They developed water transportation to carry to Hamburg or Bremen products of these countries, which reached the seaports frequently over German financed railroads, and produced by natives who were financed by local German banks. These banks were everywhere backing up the German merchant established abroad and enabling him to get a part of the local business, and often participating in the political life of the country. In Venezuela, Colombia, and in countries on the Isthmus especially, German merchants controlled, through advances to the producers, a large proportion of the total exports and imports. A German branch bank, for example, in a sugar country would lend money to its German customer to enable him to finance a sugar grower, receiving from the grower a contract to deliver to him the crop when harvested, to be sold by the merchant for account of the planter. All through the transaction the German would control, from the time the cane was planted, through its growing and grinding, following up the sugar ready for shipment until its final shipment to consumers.

All through the Latin American countries the local markets, generally speaking, furnish sufficient funds for the carrying on of private enterprises and for the ordinary requirements of the commercial

houses, manufacturers, and the agricultural industries. Many of the larger export and import houses carry accounts abroad, and to some extent lines of credit are accorded them in foreign countries. But, as a rule, borrowing of this character is done locally, and the Latin American banks have always been very liberal in their credit extensions. Credit is banking, and the principles of banking are the same all over the world. But while the principles are the same the application differs with the differing of mentality; and the personal equation and personal friendship influence more among the Latins than in our own country.

It is only in comparatively recent years that there has been a local market in the Latin countries for their own government securities. The disposition of the investor always was to send his savings out of the country and for investment abroad. This was probably the result of long years of unsettled conditions caused by frequent revolutions and lack of stability. Political leaders especially took no chances of confiscation of property following a political fall. To-day in both Brazil and Argentina there is a good demand for certain bond issues, and they sell on a lower income basis to the holder than do similar securities in our market at this time. One very popular form of investment in Argentina are the *cedulas* issued by the Banco Hipotecario, secured by mortgages on real estate and guaranteed by the National Government. These are looked upon as a security of prime quality, and such is the case. They are freely traded in and always have a very ready market. They are issued by the mortgage bank to the borrower against mortgage, he receiving the *cedula* instead of cash as the proceeds of the loan, and disposing of it at the market rate, which is something under par except in the case of some of the earlier issues of the mortgage bank, when the bonds brought higher rates of interest than to-day; but these issues are now almost entirely redeemed. While the borrower is forced to sell the proceeds of his borrowings under par, and is therefore at a disadvantage, it later on works to his interest, for it is his privilege to make the payments on account of the principal or in full settlement of his borrowings in *cedulas*. Therefore in purchasing them at a discount and in turning them in at their par value, he is offsetting what he lost when he originally marketed them. Being issued in paper currency, they attract foreign capital frequently when, as to-day, the exchange is low. Converting dollars at a premium of 25 per cent and buying these securities something under par results in a low cost and large income return.

Rates paid for foreign loans have naturally varied in accordance with the credit standing of the borrowing country, and this has been determined by the prospective borrower's record regarding

meeting its obligations, the trade balances, political conditions, etc. Some of the smaller nations have in years gone by paid usurious rates, while the more important ones have found favorable markets for their issues. London, Paris, and Berlin have been the leading countries, or were prior to the war. Argentina borrowed there at low rates, and the price they have been obliged to pay since 1914, although not over current market rates, has impressed them unfavorably. They seemed to feel that in maintaining a strictly neutral attitude during the war their credit should have been a preferred one. That country has to-day a large floating indebtedness, which it will sooner or later be obliged to convert into a bond issue. Where the loan will be negotiated no one can say. England would no doubt want very much to handle it on account of the large British interests in Argentina, and with a view, always kept foremost in the mind of the British Government, banker, and merchant, to future commercial relations. Great Britain has developed her foreign trade by means of permanent investment abroad in railroads, wharf properties, public-service companies, and other industries, furnishing the material needed for construction and operation, thus developing permanent buyers of her natural and manufactured products. These she has been enabled to ship to any part of the world at more favorable rates than her neighbors, owing to the ownership of large ocean tonnage, freight rates being quoted for British goods that would give them preference over competing articles. With the coming of an American Merchant Marine these conditions have changed, and American goods have for the past four or five years had an equal or greater advantage in foreign markets. If after having developed a merchant marine we are able to keep it, then our manufacturers can not be discriminated against by owners of foreign vessels who are in close union with the owners of the goods they carry.

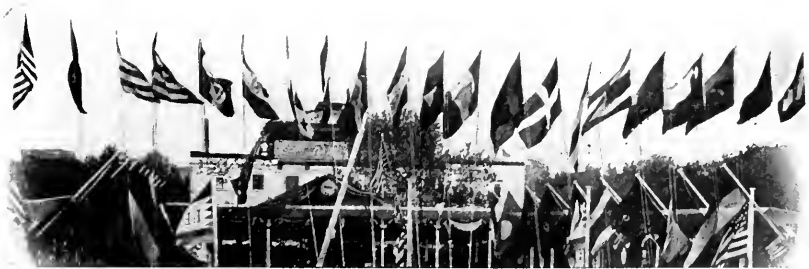
Foreign investments have never found a favorable market in the United States, or until recent foreign loans were floated here. The rapid and vast development which took place in this country absorbed all the investment funds available. The railroad building, development of the great steel and iron industries, agricultural and mining enterprises, constantly called for money and for credit, and very naturally no investor looked abroad for opportunities to employ his funds. Prior to the war, an occasional small foreign loan was brought out in this country, but not until we were practically forced into it, did we begin foreign financing on an important scale. For the good of the country there should be a permanent and broad market here for foreign governments, foreign cities, and foreign industries, for in no other way can we successfully develop and maintain a foreign trade—a trade that we will some day need—if we are to keep our factories going and avoid large numbers of unem-

ployed. The United States needs as large and varied a foreign market for its goods as it may be possible to develop, and the markets of the Latin American countries offer some of the best opportunities. These should be catered to and developed and made our permanent customers for everything we can provide. We have a large trade now with our Latin neighbors, but our trade with Canada alone is far greater than with all of Latin America combined; and in Canada the population is about equal to that of Argentina alone. So comparison clearly shows that our Latin American trade, while large, is certainly very small compared to what it might be.

POSTAL CONVENTION IN FORCE

THE convention signed in Madrid November 11, 1920, and published in the Bulletin of the Pan American Union for February 1921, providing for mutual interchange of all classes of mail matter at domestic rates between the 18 Spanish American Republics, Brazil, Haiti, Spain, the Spanish colonies, the United States, and the Philippine Islands, which convention was signed subject to ratification, according to a report issued by the United States Post Office Department on January 31, 1921, has been put into force prior to ratification by the postal authorities of Bolivia, Colombia, Honduras, Nicaragua, and Peru, taking effect on February 1, 1921.

In the United States ratification by act of the Senate, as in the case of ordinary treaties and conventions, is not necessary, the Post Office Department having authority to conclude and put into force postal conventions of this nature. The convention is therefore in effect as fully ratified by the United States, and is now effective with the five countries above named.



FOREIGN TRADE OF ARGENTINA FOR 1920

A PRELIMINARY REPORT submitted by the director general of statistics, Ingeniero Don Alejandro E. Bunge, to the minister of finance on December 17, 1920, shows the outlines of Argentine trade for the calendar year 1920, from statistics for 11 months combined with an estimate for the month of December.

According to this report the imports for the year are 854,100,000 pesos gold, and the exports, 1,006,800,000 pesos, or a total of 1,860,900,000 pesos.

The figures for the preceding year in round numbers were: Imports, 655,800,000 pesos; exports, 1,031,000,000 pesos; total, 1,686,800,000 pesos. These figures show an increase in the imports of 198,300,000 pesos, and a decrease in exports of, 24,200,000 pesos, or a net increase of 174,100,000 pesos in the total trade.

Reduced to terms of United States currency, estimating the Argentine peso gold at 97 cents, the trade for the two years was as follows: 1919, imports, \$636,126,000; exports, \$1,000,070,000; total, \$1,636,196,000; 1920, imports, \$828,477,000; exports, \$976,596,000; total, \$1,860,900,000.

IMPORTS.

The table following shows both the "nominal" and the "real" values and also the revenue collected on imports by months and by quarters:

Months.	"Nominal" Values.	"Real" Values.	Revenue collected.
	<i>Pesos.</i>	<i>Pesos.</i>	<i>Pesos.</i>
January.....	21,800,000	64,600,000	4,832,320
February.....	18,000,000	53,400,000	3,991,821
March.....	24,700,000	73,200,000	5,467,610
Total.....	64,500,000	191,200,000	14,291,751
April.....	24,800,000	73,500,000	5,486,526
May.....	21,500,000	63,600,000	4,758,374
June.....	24,300,000	72,200,000	5,393,403
Total.....	70,600,000	209,300,000	15,638,303
July.....	27,300,000	80,900,000	6,446,091
August.....	26,000,000	77,000,000	6,902,896
September.....	29,700,000	88,100,000	7,899,217
Total.....	83,000,000	246,000,000	21,248,204
October.....	22,600,000	67,000,000	6,013,362
November.....	23,800,000	70,400,000	6,315,902
December (estimate).....	23,700,000	70,200,000	6,300,000
Total.....	70,100,000	207,600,000	18,629,264
Whole year.....	288,200,000	854,100,000	69,807,522

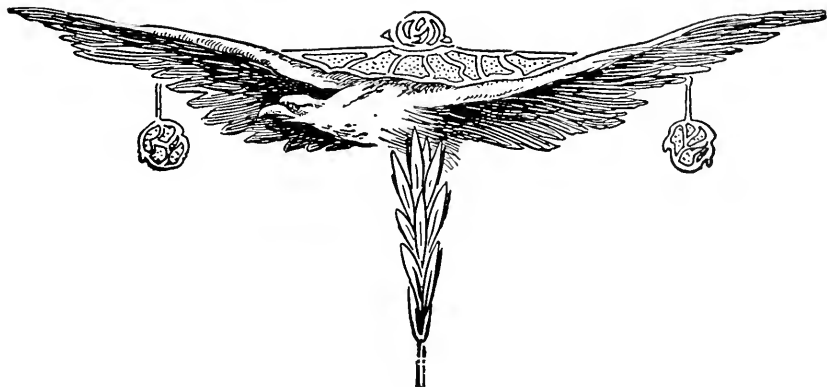
The column above of "nominal" values, sometimes called "official" values, represents the rigid customhouse appraisements which bear but little relation to the actual value and cost of the goods imported. The Argentine office of statistics has worked out an index, showing the relation between these values and the approximate actual values which are given in the table above. The "nominal" value of imports for the year 1919 was 229,709,812 pesos.

EXPORTS.

The following table shows the values and the amount of customs collections on exports given by months and by quarters, for the year 1920:

Months.	Pesos.	Customs collections (pesos).
January.....	90,600,000	3,515,948
February.....	96,500,000	3,500,973
March.....	121,100,000	4,615,524
Total.....	308,200,000	11,632,445
April.....	109,700,000	4,357,162
May.....	99,000,000	4,057,052
June.....	82,100,000	3,621,602
Total.....	290,800,000	12,035,816
July.....	100,500,000	4,771,790
August.....	78,400,000	3,785,567
September.....	56,900,000	2,687,462
Total.....	235,800,000	11,245,819
October.....	63,600,000	2,939,855
November.....	48,600,000	2,064,788
December (estimate).....	59,800,000	2,500,000
Total.....	172,000,000	7,504,643
Whole year.....	1,006,800,000	42,418,723

The value of exports given represents as near as can be arrived at, the approximate value, by wholesale, of the exports in Argentina as of the dates of shipment.



UNITED STATES TRADE WITH LATIN AMERICA ∴

CALENDAR YEAR 1920.

THE trade of the United States with the Latin American Republics for the year ending December 31, 1920, as compiled from reports of the Bureau of Foreign and Domestic Commerce, Department of Commerce of the United States, shows an increase over the preceding year of \$1,001,737,367, or 44.4 per cent. The figures for 1919 showed an increase over 1918 of \$462,383,498, or 25.8 per cent. Together, the two years show an increase in the trade of the United States with Latin America of nearly \$1,500,000,000—a sum more than double the total trade of the United States with these countries just prior to the war.

	Imports. ¹	Exports. ¹	Total.
1920.....	\$1,766,993,859	\$1,488,301,742	\$3,255,295,601
1919.....	1,318,803,305	934,754,929	2,253,558,234
Increase.....	448,190,554	553,546,813	1,001,737,367
Increase (per cent).....	33.9	59.2	44.4

Compared with 1913, the year before the war, the trade for 1920 was over four times as large.

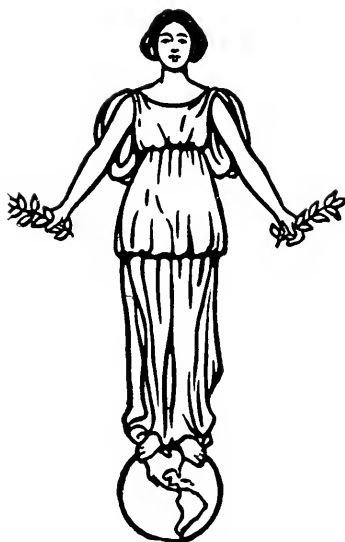
	Imports. ¹	Exports. ¹	Total.
1920.....	\$1,766,993,859	\$1,488,301,742	\$3,255,295,601
1913.....	427,058,266	316,560,433	743,618,699
Increase.....	1,339,935,593	1,171,741,309	2,511,676,902
Increase (per cent).....	313.7	370.1	337.7

Notwithstanding there has been since 1913 a large increase in trade by quantities, yet the advance in prices accounts for a very large part of the increase shown in these tables.

¹ Imports=imports into United States from Latin America. Exports=exports to Latin America from the United States.

	1920		
	Imports. ¹	Exports. ¹	Total.
Mexico.....	\$180,191,075	\$207,854,197	\$388,045,272
Guatemala.....	20,076,519	10,202,620	30,279,139
Salvador.....	11,915,320	8,148,018	20,063,338
Honduras.....	8,306,364.	15,361,919	23,668,283
Nicaragua.....	7,971,426	9,542,964	17,514,390
Costa Rica.....	10,133,282	9,887,108	20,020,390
Panama.....	8,272,586	33,333,155	41,605,741
Cuba.....	721,695,905	515,082,549	1,236,778,454
Dominican Republic.....	33,878,099	45,528,750	79,406,849
Haiti.....	8,973,534	19,900,380	28,873,914
North American Republics.....	1,011,414,110	874,841,660	1,886,255,770
Argentina.....	207,776,868	213,725,984	421,502,852
Bolivia.....	10,495,298	4,573,381	15,068,679
Brazil.....	227,587,594	156,740,365	384,327,959
Chile.....	120,515,599	55,310,465	175,826,064
Colombia.....	53,644,022	59,142,277	112,786,299
Equador.....	14,479,903	12,244,165	26,724,068
Paraguay.....	1,179,592	1,813,798	2,993,390
Peru.....	63,730,964	47,037,128	110,768,092
Uruguay.....	33,780,647	33,720,550	67,501,197
Venezuela.....	22,388,862	29,151,969	51,540,831
South American Republics.....	755,579,749	613,460,082	1,369,039,831
Total Latin America.....	1,766,993,859	1,488,301,742	3,255,295,601

¹ Imports=imports into the United States from Latin America. Exports=exports to Latin America from the United States.





Photograph by Harris & Ewing.

CHARLES EDWARD ALBES.

Managing editor of the *Bulletins of the Pan American Union*. Born, Nashville, Tenn., December 3, 1867; died, Washington, D. C., January 15, 1921.

To the Memory of
Charles Edward Albes

By the
Director General of the Pan American Union
on behalf of the staff

THE death of CHARLES EDWARD ALBES means an irreparable loss to the Pan American Union, not only because of the devoted service which he rendered during a period of ten years, but also by reason of his loyalty to the great purposes for which the Pan American Union was established. In a sense, Mr. ALBES sacrificed himself to the cause in which he was so vitally interested, denying to himself necessary rest and recreation and devoting himself unreservedly to the development of closer relations between the Republics of the American Continent.

The respect and deep affection in which he was held by all those who had the privilege of working with him is the highest tribute to his character. Although deprived of his services, his influence in the work of the Pan American Union will continue for many years to come. The spirit of service which characterized his life and activities sets a standard for the entire staff of the Union, and will be a constant inspiration to those entrusted with the continuation of the great work which he brought to so high a plane of efficiency.

AGRICULTURE, INDUSTRY AND COMMERCE

ARGENTINA.

ITALIAN ARGENTINE TRADE.—The Italian minister of agriculture has held conferences with a representative of the Argentine ministry of agriculture regarding the basis of a convention for the exchange of articles of prime necessity between the two countries.

EXPORT TO BRAZIL OF BLOODED CATTLE.—The delegates sent by the Argentine Rural Society to the live stock exposition held in Rio de Janeiro have handed in their reports, which state that Argentina may find a market in Brazil for sires of dairy breeds, such as Holstein, Holland, and Normandy cattle. Of the beef breeds the most extensively raised are Hereford and a much smaller number of Aberdeen Angus.

PRIZES FOR EXHIBITS OF LIVE STOCK.—The senate of the Province of Corrientes passed an appropriation of 1,000 pesos for prizes for exhibits of live stock in the provincial fair in Santo Tome. The provincial government was also authorized to request from the National Government the installation of an electric-light plant.

EXHIBITION OF DAIRY COWS.—The first regional prize exhibition of dairy cows was held under the auspices of the Rural Argentine Society in cooperation with the Rural Society of Rafaela. This contest has awakened much enthusiasm among the dairy men of the neighborhood, who are anxious to exhibit in the international exposition to be held in Palermo next year.

CONSTRUCTION OF A REVERBERATORY FURNACE.—A reverberatory furnace is being constructed in Santa Florentina, Province of La Rioja, for the smelting of metals. This is the first one of its kind in South America and is to be a very large plant.

CULTIVATION OF UNOCCUPIED LAND.—The Ferro Carril Centro Argentino, through its office of rural promotion, is operating experimental agricultural stations in the northern sections of the Republic. The inhabitants of this country are industrious, and the cultivation of cotton, peanuts, and Sudan grass is being successfully tried in several stations. These regions are subject to very slight rainfall and the methods used somewhat like those of dry farming. Sudan grass is the proper forage for this district, as, if there is no heavy frost, it is possible to raise two crops a year.

FOREIGN TRADE BETWEEN SPAIN AND ARGENTINA.—Don Juan Antonio Gómez Quiles, delegate to the celebration of the discovery

of the Straits of Magellan, representing all the Spanish chambers of commerce, said that Spain was most anxious to trade with the South American Republics, and two of her manufactures were being developed to this end—namely, textiles and coal mining. He stated that to increase trade between Spain and Argentina there should be a large Spanish-Argentine shipping company, as at present almost all immigrants went in foreign ships. Spain is desirous of importing wheat from Argentina, but there will have to be increased shipping facilities to handle this trade.

REGULATION OF PRICE OF WHEAT FLOUR.—According to a presidential decree the Government will furnish to the millers wheat f. o. b. mill at the rate of 16 pesos per 100 kilos. From each 80 kilos of wheat provided, the millers shall return 36 kilos “00” flour, 31 kilos “special flour,” and 3 kilos No. 2 flour, f. o. b. mill, billed to the Government at the uniform rate of 0.24 pesos per kilo.

BRAZIL.

PROPOSED TARIFF REVISION.—A bill has been drafted by the special commission appointed for the revision of the tariff. This bill has been submitted to congress and awaits the action of that body.

DAMS AND PORT IMPROVEMENTS.—The government of the State of Ceara recently contracted with American firms for the construction of irrigation dams in that Commonwealth and for the improvement of the port of Fortaleza.

IRON SMELTER.—A plant for the smelting of iron ore recently commenced operations at Sabara, State of Minas Geraes.

NEW STEAMSHIP LINES.—The Royal Mail Steam Packet Co., the Hamburg-American Line, and the State Maritime Transport Co. (Companhia de Transportes Maritimos do Estado) have arranged for a steamship service between Brazilian ports, Lisbon, Liverpool, Havre, Rotterdam, and Hamburg. Three of the French steamship companies, which before the war maintained a service between French, Brazilian, and Argentine ports, have consolidated and renewed the service between these ports.

CIGARETTE FACTORY.—A large cigarette factory was recently completed and put in operation at Nazareth, State of Bahia.

ELECTRIFICATION OF CENTRAL BRAZILIAN RAILWAY.—The chamber of deputies of the Brazilian congress has passed a bill for the electrification of the Central Railway of Brazil. This bill authorizes the Government to expend not more than 45,000 contos (at present exchange about \$8,000,000), and to contract with private companies to furnish power for the operation of the railroad for a term not to exceed 15 years.

PREFERENTIAL TARIFF REDUCTION.—The Brazilian Congress, which adjourned on December 31, 1920, to meet again on May 1, 1921, authorized the President of the Republic to grant the usual preferential tariff reductions on certain American merchandise; that is to say, 30 per cent on wheat flour and 20 per cent on the following articles: Condensed milk, manufactures of rubber, paints and colors (except writing inks), refrigerators, clocks, pianos, scales, windmills, cement, corsets, dried fruits, school furniture, writing desks, typewriters, and varnish.

WATERFALLS.—Recent investigations of the Brazilian Government show that the waterfalls of Brazil can be made to produce electric power in excess of 30,000,000 horsepower. There are numerous waterfalls, some of which are partly utilized, in the States of Amazonas, Matto Grosso, Para, Goyaz, Maranhao, Alagoas, Pernambuco, Parahyba, Rio Grande, and other States of the Republic, awaiting development. A map showing the location of these falls and their estimated power has been prepared by the Brazilian Government under the direction of Engineer Rodovalho dos Reys.

IMPORTS OF CEMENT.—In 1916 Brazil imported 169,838 metric tons of cement; in 1917, 98,591 tons; in 1918, 51,715 tons; and in 1919, 198,418 tons.

TRAFFIC SAO PAULO RAILWAY.—In 1919 the Sao Paulo Railway carried 3,832,965 passengers, 6,291,216 sacks of coffee weighing 60 kilos each, and 2,917,265 tons of other freight, as compared with 3,262,474 passengers, 9,325,916 sacks of coffee, and 2,589,463 tons of other merchandise in 1918.

CHILE.

RAILROADS.—The Government has authorized the construction and operation of a railroad to connect the terminal at kilometer 799 of the Central Sur de los Ferrocarriles del Estado (southern section of State Central Railroad) with the coal deposits of Curanilahue. The President has signed a decree ordering the making of the necessary surveys and plans for the railroad to run from the city of Rio Negro to the city of Maullin, in one of the most important zones in the Province of Llanquihue, joining the southern coast line from Osorio to Ancud. The Government has also accepted the bid of a firm of contractors for the construction of the Iquique-Pintados Railroad. The budget for this last-named road calls for 5,137,600 pesos paper, stipulating that the work be terminated in 28 months.

NEW LINE OF STEAMERS.—The freighter *Pioneer* of the Lloyd Royal Belge recently arrived from Antwerp on the initial trip of a new steamer service between Chile and Europe, operated by a Belgian company which already has lines running from northern Europe to

the ports of New York, New Orleans, India, Brazil, Buenos Aires, and the Mediterranean.

MEXICAN COMMERCIAL AGENT.—Señor Zeferin Muñoz recently arrived in Valparaiso as Mexican commercial agent sent by that Government to foster trade relations between Mexico and Chile.

PRODUCTION AND EXPORT OF NITRATE.—During October, 1920, the production of nitrate for the Republic amounted to 5,076,247 quintals, as against 2,538,468 quintals for the same period of the previous year, or an increase of 2,537,781 quintals in 1920. During October 4,626,940 quintals of nitrate were exported as against 3,740,247 quintals in the same period of the previous year, showing an increase in exports for October, 1920, of 88,693 quintals.

ANIMAL EXHIBIT.—In November the official opening of the exposition of animals in Santiago was attended by the President of the Republic and was a brilliant success. There were many prize-winning exhibits.

COLOMBIA.

GLIDERS FOR THE MAGDALENA RIVER.—As previously mentioned in the BULLETIN, a French-Colombian company is about to establish a new transportation service on the Magdalena River and other rivers of Colombia by means of "gliders," somewhat on the order of hydroplanes. The preliminary trials have been successfully made. The flying boat is the Marcel Besson type, carries 12 passengers, is 12.50 meters long and 4.50 beam; contains a Panhard motor, aeroplane rudder, and 4 armed propellers, a lighting system and water cooler, and has a speed of 70 kilometers per hour. The company has assembled the material to put up a factory and shops. The first five gliders built are to be christened for five rivers—namely, *Magdalena*, *Atrato*, *Sinu*, *Cauca*, and *Meta*. If the first fleet of 5 gliders proves practical, the company expects to build 40 more of this type of flying boat.

AERIAL TRANSPORTATION.—The second aeroplane of the German-Colombian Co. of Aerial Transportation was christened *Bogota*. This plane made the trip from Barranquilla to Girardot in seven hours, carrying two aviators, four passengers, and mails.

PROJECTED STEAMSHIP LINE.—John C. Allen has lately arrived in the city of Cali to take up the matter of establishing a special steamship line between the port of Buenaventura and the Pacific coast of North America.

IMPORTS AND EXPORTS.—During the month of November 72,330 packages of merchandise, weighing 4,800 tons and worth 3,500,000 pesos gold entered Colombia through the customs of Barranquilla. The exports through the same customhouse during the same period amounted to 120,800 pieces, weighing 7,000 tons, worth 4,085,000 pesos. Through the customhouse of Cartagena 70,000 packages of merchandise were imported during the same month.

"UNION COMERCIAL" FORMED.—A number of business houses in Medellin have formed an association known as the "Union Comercial," the present purpose of which is to ameliorate the existing economic crisis, and the general aim of which is to improve the practices and maintain a high standard in commercial relations.

THE INSTALLATION OF AN AERIAL CABLE SYSTEM.—A committee of engineers has been sent by the firm of Pedro A. López & Co. to make the preliminary surveys and plans for the installation of an aerial cable between San Lorenzo and Libano, towns of the department of Tolima, one producing live stock and the other coffee.

WIRELESS COMMUNICATION WITH GERMANY.—Changes have been made in the wireless station at Cartagena which have considerably increased its sending and receiving power, so that it is now able to send direct to the Nauen station in Germany. This is a permanent day and night service.

NEW STEAMER SERVICE.—The agent of the Pacific Steam Navigation Co. states that a passenger and freight service will soon be established, the steamers *Quillota* and *Quilpe* running from New York to Puerto Colombia, Cartagena, Cristobal, Buenaventura, and Guayaquil.

CONCESSIONS FOR COAL EXPLORATIONS IN UNOCCUPIED LANDS.—Concessions for coal explorations were granted in the unclaimed lands in the intendencia of Choco, and at Arboletes, department of Bolivar.

WIRELESS TELEPHONE.—A wireless telephone system has been established between Bogota and the river port of Girardot.

RAILROAD TO SANTANDER.—The Compañía Colombiana de Fomento (contractors) has promised to complete the construction of the railroad from Nemocon to the border of Santander within two years, and has prepared the budget for the undertaking.

STOCK SOLD IN FAIRS AT GIRARDOT.—During the stock fairs at Girardot, 1,300 head of stock were sold at prices aggregating 50,000 pesos.

REDUCTION OF RENTS.—In Barranquilla measures have been taken to reduce the rents. The mayor of the city called a meeting of property owners to consider the situation.

COSTA RICA.

SPANISH CAPITAL.—An article in Figaro on Spanish capital in Costa Rica states that Spanish merchants are found in every part of the country, and that while this nationality is represented in agriculture and the manufacturing industry, its greatest interest is in commerce. It is estimated that the total amount of Spanish capital invested in the Republic is about 26,000,000 colones, or nearly \$13,000,000.

CUBA.

NEW STORES COMPANY.—A new stores company under the name *Compañía Nacional de Almacenes*, with a capital of \$3,000,000, has been formed in Habana. The storehouses of Lluria, Garagol y *Compañía* in the port of Cardenas, are a part of the new company's property and are worth \$2,000,000.

SUGAR FACTS.—The total production of the 1919–20 crop was 3,728,975 tons of sugar. The central which produced the most was Moron, a plantation belonging to the Cuba Cane Sugar Co. and located in the province of Camaguey, which produced 611,031 sacks of 325 pounds each. The central producing the least was Monona, in Guantanamo, with only 2,050 sacks. The Cuban port shipping the most sugar was Nuevitas, which received 3,228,926 sacks, next Matanzas, with 3,102,024 sacks, and Jucaro with 2,864,964 sacks.

PROFITS OF A SUGAR COMPANY.—Up to September 30, 1920, the net profits of the Cuban American Sugar Co. were \$12,117,191, equivalent, after the payment of the dividend on preferred stock, to \$11.56 per share of common stock, with a par value of \$10.

TRADE WITH THE UNITED STATES.—Cuban American trade from the fiscal year of 1914–15 up to the month of September, 1920, was as follows: 1914–15, imports \$75,530,382 and exports \$185,706,901; 1915–16, imports \$127,198,578 and exports \$228,977,567; 1916–17, imports \$178,883,248 and exports \$253,395,410; 1917–18 imports, \$253,469,608 and exports \$264,024,006; 1918–19, imports \$229,545,704 and exports \$337,654,142; 1919–20, imports \$396,595,049 and exports \$645,571,828; and from July to September, 1920, imports \$117,708,254 and exports \$220,407,913.

COMMERCIAL PROPOSITIONS OF CANADA.—Canada has made new proposals to the Government of Cuba for the arrangement of an unofficial convention, whereby certain privileges be granted for certain Canadian products, with reciprocal privileges for certain products of Cuba.

DOMINICAN REPUBLIC.

WEEKLY FAIR.—The city government of Peña has decided to establish in this town a public fair, to be held on Thursdays and Fridays of each week.

FAIR AND EXPOSITION.—A fair and exposition of agricultural, industrial, and commercial products was held in San Pedro de Macoris.

TRADE THROUGH DOMINICAN PORTS.—The total value of the foreign trade of the Dominican Republic in 1919 amounted to 61,621,019 pesos, of which 22,019,127 pesos represented the importation and 39,601,892 pesos the exportation. Trade passed through the various ports as follows: Santo Domingo, imports 7,226,059 pesos and exports 6,114,642 pesos; Puerto Plata, imports 5,403,242 pesos and exports 8,734,813 pesos; Macoris, imports

4,913,701 pesos and exports 13,793,941 pesos; Sanchez, imports 2,484,547 pesos and exports 5,753,883 pesos; La Romana, imports 950,653 pesos and exports 3,192,492 pesos; Azua, imports 474,092 pesos and exports 1,001,253 pesos; Monte Christi, imports 346,584 pesos and exports 535,582 pesos; Samana, imports 165,377 pesos and exports 284,303 pesos; Barahona, imports 54,872 pesos and exports 102,261 pesos. Through the ports of Las Lajas, Dajabon, and Comendador there were exports amounting to 39,633 pesos through the first, 35,001 pesos through the second, and 14,088 pesos through the third.

TELEPHONE SERVICE.—Arrangements have been made to install in Asuncion a new telephone central system of the automatic type in use now in Habana and in the Canal Zone.

ECUADOR.

PROPOSED RAILWAY.—Steps have been taken for the construction of a railway from the port of Esmeraldas, in the direction of Quito, to Santo Domingo de los Colorados. This road will make accessible about 1,000,000 acres of virgin forest lands lying in a practically level country at an elevation of about 2,000 feet. When the line is completed to the national capital it will be the shortest and most direct route from Quito to the coast. The first 30 miles of the road will open to traffic rich lumber and tagua regions now inaccessible.

ITALIAN STEAMSHIP SERVICE.—The Ecuadorean Government has contracted with the Italian trans-Atlantic companies and the Societa Nazionale di Navigazione for a regular steamship service between Guayaquil and other ports of the Republic and Italian ports. The mails of the Government of Ecuador are to be carried free, and a reduction of 25 per cent from the regular tariff charges is allowed the Government on freight and passenger traffic. The steamship company is exempt from port charges.

COST OF RAILWAYS.—According to figures published by *El Comercio*, the cost, up to May 31, 1920, of the Quito to Esmeraldas, Sibambe to Cuenca, Amoato to Curaray, Guayaquil to Salinas, and San Juan Chico to Riobamba Railways, was 6,416,283 sueres.

GUATEMALA.

FREE IMPORTS.—An executive decree of December 13, 1920, provides that when reciprocity exists between Guatemala and any other Central American State, the imports of natural and manufactured products from that country, with the exception of forbidden articles of trade and articles now a Government monopoly, or which in future may become such, shall be admitted into the Republic free of duty.

COMMERCIAL AGRICULTURAL ASSOCIATION.—The by-laws of the Commercial Agricultural Association of Pamaxan at Chicacao, Department of Solola, have been approved by the Government and the association has been acknowledged as a juridic entity.

CHIQUIMULILLA CANAL.—The Guatemalan Government recently contracted with Arturo Aparicio to clean and widen the Chiquimulilla Canal, in the eastern part of the Republic, so as to make it navigable for vessels of small draft.

TIMBER AND CHICLE INDUSTRIES.—The timber and chicle industries in the departments of Peten and Alta Verapaz are largely in the hands of the following companies and persons: The American Guatemalan Mahogany Co., the Guatemaltecan Export Co., Dought, Pulido & Masa, Siniega Otero Hijos, and Albert V. Valdivizon. The field is a rich and promising one and could be greatly developed. The *Diario* of Central America states that a million dollars of timber annually could be easily exported from the forests of the department of Peten, and that the exports of chicle could be greatly increased.

TARIFF CHANGES.—An executive decree of November 26, 1920, provides that on and after January 1, 1921, wheat flour, which, in accordance with the law of January 23, 1918, was admitted into the Republic free of duty, shall again be subject to the former basic duty of $4\frac{1}{2}$ centavos per kilo. From the first of the present year the following articles imported into Guatemala were subject to duty at the rate of 4 centavos per kilo: Rice, beans, garbanzo, peas, maize, onions, fresh vegetables, potatoes, and similar food substances rolled oats, and other foodstuffs not specified. Should the grains mentioned in the foregoing be desired for seed purposes, their importation free of duty can be arranged through the department of agriculture. On November 26, 1920, the restrictions and export duties on the following articles were removed: Rice, beans (with the exception of black beans), garbanzo, peas, potatoes, and vegetables; linseed, sesame, peanuts, corozo, and other oleaginous seeds; fresh and canned fruits of all kinds; starch, maisena or cornstarch; and different kinds of flour, cotton, hemp, flax, ramie, and other vegetable fibers.

HAITI.

ELECTRIC PLANT IN CAYES.—The municipality of Cayes has made the final arrangements for the installation of an electric plant in the town.

MEXICO.

NEW STEAMSHIP LINE.—The Five Continent Steamship Co. has started a new line of steamer service between Tampico, Progreso, and New York, making sailings every two weeks.

NEW STEAMSHIP LINE ALONG THE PACIFIC COAST.—The California & Mexico Steamship Co. has obtained authorization from the Mexican Government to establish a line of steamers for passenger and freight service between the ports of San Francisco, Calif., and the Mexican ports of La Paz, Topolobampo, Mazatlan, San Blas, and Manzanillo, with intermediate ports of call. The route may be extended as far as Salina Cruz if the company sees fit. Steamers will make the round trip every month between San Francisco and Manzanillo, and if the route is extended to Salina Cruz the trip will be made every 15 days.

CAMPAIGN AGAINST CATTLE AND PLANT DISEASES.—The Mexican Government has declared the extinction of cattle and plant plagues to be of public benefit. Agriculturists and stock owners are therefore obliged to inform the department of agriculture within three days after the appearance of any plant or cattle disease on their property. If such property owner can show that he lacks funds the department of agriculture will furnish him the means of fighting the plague.

CONSTRUCTION OF A PIPE LINE AND OIL REFINERY.—The President has authorized Señor Salvador Alvarado to organize a Mexican oil company, granting also permission to build and operate underground pipe lines to carry crude oil and its derivatives from a point near Rio Tuxpan through Pahautlan, Zacatulatla, Tulancingo, Ometusco, Otumba, and Villa de Guadalupe to end in Mexico City. The company is also authorized to build branch pipe lines, water and gas lines, install telegraph and telephone lines, an electric light and power plant, to build a road and a railway between Rio Tuxpan and Honey, and a refinery near the City of Mexico.

CENSUS AND COMMERCIAL STATISTICS.—A Mexican publication states that the department of industry, commerce, and labor has undertaken more extensive work in its branches, one of the most important additions being the census and commercial statistics section. By this section the Republic has been divided into 12 zones; in each zone is an inspector whose duty it is to take data for the following subjects: Census of the commercial operations in the cities and towns; industrial census, including the production of raw materials; vegetable products; mineral products; stock raising; oil production, etc.

OIL TANKERS.—The Compañía Mexicana de Petroleo "El Águila" has announced that it will double its tonnage of oil tankers, which will raise the company's fleet to 460,000 tons, and it will expend some 35,000,000 pesos in acquiring the additional tankers.

OIL NOTES.—The Boletín del Petróleo of Mexico estimates the petroleum zone as follows: Gulf side, 34,150,000 hectares; Pacific side, 19,100,000, and Lower California 7,500,000 hectares, or a total

of 60,750,000 hectares, of which only 21,214 hectares are in the explored productive zone. On October 15, 1920, there were in Mexico 343 wells, with a daily production of 431,217 cubic meters, or 2,712,358 barrels of oil. The production of crude oil in Mexico from 1915 up through the first six months of 1920 was as follows: 1915, 32,910,508 barrels; 1916, 40,545,712 barrels; 1917, 55,292,770 barrels; 1918, 63,828,326 barrels; 1919, 87,027,954 barrels; and for the first six months of 1920, 57,590,995 barrels. In August, 1920, the amount of petroleum in the country was 8,694,321 cubic meters.

COMMERCIAL CONFERENCE.—The American Chamber of Commerce of Mexico is organizing a commercial conference to take place in the City of Mexico in April of the present year. An organization committee has been appointed to make the arrangements and extend the invitations to the chambers of commerce of the principal manufacturing cities of Mexico and the United States.

AUTOMOBILE SHOW.—The monthly publication *El Automóvil en México* has arranged an automobile show to take place in the National Theater in the City of Mexico in the present month of March.

NICARAGUA.

AIRPLANE SERVICE.—The Government of Nicaragua has taken steps to establish an airplane mail service between Managua, Cabo Gracias a Dios, and Bluefields.

ATLANTIC RAILROAD.—Work has been commenced on the construction of the Atlantic Railroad. The definite route from Monkey Point is to be surveyed by Engineers Miller and Wiest. The terminal point of the line on Lake Nicaragua will be San Miguelito. The estimated cost of the road is \$5,280,000.

ELECTRIC INSTALLATION.—Material has been purchased in the United States for an electric light and power plant to be installed in the city of Leon.

AUTOMOBILE ROAD.—The Nicaraguan Government has recently made a number of contracts for the construction of sections of the automobile road between Jugalpa and La Libertad.

DREDGING OF THE COCO RIVER.—The Government has contracted for the dredging of 40 miles of the Coco River, in the district of Cape Gracias a Dios, to a depth sufficient to admit the navigation of steamers of a draft of 18 feet. This will open up a rich lumber and banana region. A new port called Rayo de Sol is to be established.

PANAMA.

NATIONAL HIGHWAY CONSTRUCTION.—The Government of Panama recently received bids for the construction of national highways in

the Provinces of Cocle, Herrera, Los Santos, and Veraguas. Each of these bids was accompanied by a guarantee of \$100,000 for the faithful performance of the provisions of the contract in accordance with the specifications. The latter, in so far as the Province of Panama is concerned, call for a concrete highway from Panama City to the intersection of the old Panama road, and from thence a macadam road to Pacora. This part of the highway is to be 24 feet wide in the city of Panama and immediate vicinity, the width of the road being reduced to 16 feet in Pacora.

OIL TANKS.—Grace & Co. and the Pacific Mail Steamship Co. are erecting two steel oil tanks at Mount Hope in the Canal Zone.

BANANA CULTIVATION.—An investigation of the lands of the west coast of Panama, and especially those of the Province of Chiriqui from David to the Costa Rican line, show that they are well adapted to the cultivation of bananas on a large scale and are free from the banana blight.

PROPOSED LEGISLATION CONCERNING THE EXPLOITATION OF TIMBER AND OIL.—Bills have recently been introduced into the congress of Panama regulating the exploitation of timber and oil in the Republic.

PARAGUAY.

NEW SUGAR PLANTATION.—In Costapucu, in Arroyos y Esteros, a sugar plantation and central has been established, for which the machinery was purchased in the United States. The company has acquired extensive woodland, which is to be used for the cultivation of sugar cane.

SINGER SEWING MACHINE EXPOSITION.—An exposition was held in Asuncion by the agency of the Singer sewing machine, exhibiting the work done by the graduates of the school of embroidery run by the Singer agency.

FOREIGN TRADE.—During the first six months of 1920 the real values of the foreign trade of Paraguay were as follows: Imports, 7,071,301 pesos; exports, 7,236,488 pesos; total foreign trade, 14,307,789 pesos. Comparing the imports and the exports the favorable balance to the country was 165,187 pesos.

IMPORT TAXES.—The ministry of the treasury has made certain changes affecting imports. Collections of the customs duties are made in accordance with the provisions of a law passed in 1885. According to one of the provisions of this law, as it has been interpreted, goods once unloaded and the shipping bills presented, importation was considered as completed, necessitating the payment of the imposts. If the importer decided before withdrawing the goods from the customs warehouse to reship them to foreign ports, he was obliged to pay the import taxes previous to reshipment. The new

ruling of the ministry of the treasury provides that goods entering the country are not considered imports unless they are taken from the customs warehouse for internal consumption, thus permitting the merchant to reship his goods without having to pay the import taxes.

PERU.

NEW HARBOR LIGHTS.—The ministry of marine has been authorized by the President to make a contract with the Svenska Aktiebolaget Gasammulator Aga, of Stockholm, for six beacon lights to be installed in the harbors of Supey, Huarmey, Isla Norte de Chincha, Santa Maria Point, Point Parado, and Atico.

TELEGRAPH SYSTEM.—A law has been recently passed ordering the construction of a telegraph system to extend from Cotahuasi, capital of the province of La Union, to the town of Antabamba. The same law provides for the extension of the telegraph line from Cotahuasi to Alca, installing a station at Tomepampa.

MODEL FARM AT PUNO.—The Government with several property owners has organized an agricultural and stock-raising company for the development and operation of a model farm at Puno. The company's capital is to be 55,000 Peruvian pounds, of which the Government will furnish 34,000 pounds.

NEW HARBOR.—The Government has authorized M. A. Mathews to construct a port in the Bay of Matarani under the following conditions: Mr. Mathews will at his own expense build a dock for boats in the Bay of Matarani, a full-gauge railroad between this place and Mollendo, and the necessary drinking-water supply system; also he is to construct the buildings for the customhouse, the office of the port captain, and the customs guards. The concessionaire shall then have the exclusive right to manage the dock and the railroad for 25 years; and the rights over the drinking-water supply for 60 years (not exclusive after 25 years), after which period the property passes into the possession of the Government.

\$1,000,000 CONTRACT FOR CITY IMPROVEMENTS.—A contract has been made by the Peruvian Government with a firm in New York City for water supply, paving, and sanitation work in the cities of Lima and Callao and their suburbs. The agreement provides for the expenditure of \$1,000,000 within the next 10 months on public works to be completed in time for the Peruvian centenary celebration to take place this year. The contract also provides for the expenditure of an additional \$10,000,000 to \$15,000,000 on the water supply, paving, and sanitation work in 30 additional Peruvian cities and towns, the work to extend over a period of three years. The work has already been started.

SALVADOR.

EXPORT DUTY ON HIDES.—Due to the fall of the price of hides in foreign markets and because of the large stock of this product on hand in the Republic awaiting export, the executive power has decreed that on and after January 1, 1921, the export duty on hides shall be reduced to 20 colones (colon = \$0.50) per 100 kilos.

CULTIVATION OF WHEAT.—In the vicinity of the towns of San Ignacio, La Palma, and Citala the cultivation of wheat is being undertaken on a considerable scale.

NEW MARKET FOR COFFEE.—Investigations of the minister of Salvador near the Government of Italy indicate that the latter country may become a market for the coffee of Salvador.

CONSTRUCTION AND REPAIR OF PUBLIC BUILDINGS.—During the fiscal year 1919–20 the construction, repair, and conservation of public buildings in the Republic of Salvador amounted to 405,782 colones (colon = \$0.50).

URUGUAY.

COAL-DEPOSIT LANDS.—The Government has appointed a commission composed of a director, a mining engineer, the chief of drilling from the Institute of Geology, a professional oil man appointed by the President, and the professor of geology and mineralogy of the National Institute of Agronomy and Mineralogy to study Uruguayan territory which is considered to be in the thermocarboniferous age by means of systematic drilling. The sum of 152,000 pesos has been set aside for this survey.

STOCK-RAISING STATISTICS.—The Uruguayan paper *La Mañana* published statistics on the stock-raising business for the third quarter of 1920, showing that sales of cattle for that period in the Republic amounted to 6,382,312 pesos. Of this sum 3,694,385 pesos represented auctions, fairs, and settlements and 2,687,927 private sales.

HOLLAND CATTLE.—As the Uruguayan Government has been informed that anthous fever and cattle plague are in evidence along the Belgian border it has issued a decree prohibiting the importation into the country of all cattle or forage coming from Holland.

EXPORTS OF MEATS.—During November, 1920, there were exported from Uruguay 29,328 quarters of frozen beef, 1,826 quarters of chilled beef, 16,047 frozen veals, 4,156 frozen lambs, and 80 frozen hogs. During October 91,258 frozen beef quarters, 8,359 chilled beef quarters, 11,411 frozen veals, and 917 frozen hogs were exported.

EXPORTS OF WOOL.—During November, 1920, through the port of Montevideo there were exported 3,210 bales, containing 1,493,277 kilos of wool, as against 11,958 bales, containing 5,551,721 kilos of wool, in the corresponding month of 1919.

EXPORTS OF FLOUR AND WHEAT.—During the period from July 1 to September 30, 1920, there were exported through the port of Montevideo 234,900 kilos of flour and 30,000 kilos of wheat.

VENEZUELA.

VENEZUELAN OIL.—Venezuela since 1878 has been granting concessions for the commercial development of oil lands, and this development of oil production is a very important factor in the growth of the commercial life of the Republic. In the year 1878 one oil concession of 100 hectares was granted. Since 1878, 1,312 concessions have been granted, which cover an area of approximately 3,634,990 hectares. Of these concessions there are 835 covering 1,688,099 hectares in the State of Zulia and the remaining 477 concessions in 9 other States. Many of the concessions were recently granted, and the work of production has not progressed very far, but the two companies which are best established in the country produced 162,829 tons of petroleum during the past year.

TELEGRAPH RATES.—The Provisional President of the Republic, in accordance with article 29 of the law governing telegraphs and telephones, has instituted the following rates over the federal lines: Week days, from 6 a. m. to 7 p. m., the rate will be—ten words or less, 1 bolivar; 11 to 15 words, 1.25 bolivars; 16 to 20 words, 1.50 bolivars; and 21 to 25 words, 1.75 bolivars; and so on, with an increase in charge of 0.25 bolivar for each five words or less added to the message. From 7 p. m. to 6 a. m. double the day rates will be charged. On holidays double the week-day rates will be charged.

RESERVED ZONES.—The Chief Executive has declared certain zones to be reserved in accordance with clause 7, article 4, of the law governing hydrocarburates and combustibles. The reserved zones are unclaimed lands and commons in the Monagas district of the State of Anzoategui.

ELECTRIC PLANT IN CARORA.—A contract has been entered into by the municipality of Carora for the installation of an electric-light plant in that town, the cost being estimated at 160,000 bolivars.



ECONOMIC AND FINANCIAL AFFAIRS

ARGENTINA.

STATE OF THE BANKS OF ARGENTINA ON JULY 31, 1920.—The total figures for all the banks in Argentina on July 31, 1920, are as follows: Deposits on accounts current, time deposits, and savings, 10,254,743 pesos gold and 3,470,888,540 pesos currency; discounts and loans, 10,319,682 pesos gold and 2,332,355,437 pesos currency; amount of money in the country, 70,084,129 pesos gold and 996,010,811 pesos currency; capital belonging to the Republic of Argentina, 47,919,802 pesos gold and 367,331,900 pesos currency.

CUSTOMS REVENUE FOR 1920 UP TO NOVEMBER 5.—The customs of Buenos Aires collected for 1920 up to November 5 was 195,267,698 pesos, against 133,531,584 pesos in 1919, showing an increase of 61,736,114 pesos. Collections on account of the wheat export law (No. 11014) amounted on this date to 15,366,164 pesos.

CHANGES IN THE BANCO DE LA NACIÓN ARGENTINA.—The President has approved the changes recommended by the board of directors of the Banco de la Nación Argentina. The power of the bank to acquire real property from its debtors is limited to cases where the capital of the bank is in danger, and then the property must be bought in public auction. The directorate also advises the sale of such property so acquired as soon as may be possible after its acquisition in order to avoid the sinking of the bank's capital. The different operations of the bank have been more clearly defined, and the different kinds of guarantees to be demanded of debtors to whom loans have already been made. The new rules became effective January 1, 1921.

EXPENDITURES FOR ROAD BUILDING.—The ministry of public works has approved the repairs on the roads of approach to the stations of Taboada and Arce, budgeted at 12,299 pesos, and the repairs to the Casares-Real de Sayana road, budgeted at 7,166 pesos and to the Capilla del Señor-Zarate road at 2,614 pesos.

CUSTOMS RECEIPTS FOR THE COUNTRY FOR NINE MONTHS.—During the first three quarters of 1920 the customs receipts of the country was 225,381,630 pesos, or an increase of 82,838,518 pesos over the collection for 1919 for the corresponding period.

THE AMOUNT OF GOLD IN THE CONVERSION FUND has been increased by the remittance of 2,800,000 pesos from the embassy at Washington, raising the amount in the conversion office to 466,476,759.12 pesos coined gold and reducing the amount deposited with the embassy in Washington to 4,123,157.62 pesos. These amounts total

470,599,916.74 pesos gold against a circulation of 1,362,563,495.91 pesos. The previous year on the same date the coined gold in the conversion fund amounted to 304,823,908.52 pesos and the amount in the legations to 78,996,804.78 pesos, the sum of these, 383,820,713.28 pesos, guaranteeing the fiduciary currency, or 1,165,338,033.60 pesos national money.

BRAZIL.

PROPOSED BANK.—The Roumanian Government has taken steps looking to the establishment of a bank in Rio de Janeiro with the object of stimulating and developing trade between the two countries.

STATE RAILWAYS.—The governor of the State of Minas Geraes has promulgated a decree providing for the setting aside of 1,950 contos for the construction of State railways.

LOAN.—The government of the State of Rio Grande do Sul has negotiated a loan of 25,000 contos for use in the improvement of the State railways.

URBAN TRACTION LOAN.—The legislature of the State of Sergipe has authorized the State government to negotiate a loan of 15,000 contos (at the present exchange about \$2,500,000), the proceeds of which are to be used in the electrification of urban traction railways and similar activities.

CHILE.

Statement of banks.

Bank.	Deposits.		Loans.		On hand.	
	m/c.	Gold.	m/c.	Gold.	m/c.	Gold.
Banco de Chile.....	277,656,150	33,380,503	371,643,640	58,202,461	54,103,328	4,907,675
Banco Español de Chile.....	178,298,508	35,000,005	224,205,392	28,492,659	22,304,485	1,592,404
Banco Anglo-Sud Americano...	93,794,151	94,078,289	106,614,712	36,163,035	18,398,267	454,825
Banco Alemán Trans-Atlán- tico.....	31,843,795	10,686,078	32,323,694	7,878,969	6,346,965	297,665
Banco Nacional.....	42,565,249	3,997,044	69,328,977	239,681	5,981,262	265,847
Banco A. Edwards y Cía.....	42,242,663	10,120,246	54,972,142	12,633,724	2,630,449	377,700
Banco de Santiago.....	32,741,825	2,311,183	34,511,588	363,411	1,603,696	112,421
Banco de Chile y Alemania....	30,628,066	919,171	20,640,443	2,608,520	2,278,693	141,656
Banco Londres y Río de la Plata.....	12,176,727	10,852,024	8,404,227	7,159,117	5,168,092	135,708
Banco Talca.....	14,435,873	.....	19,170,968	.....	1,216,216	.....
Banco Chile y Argentina.....	8,847,106	10,552,368	18,498,437	4,968,716	1,691,398	155,070
Banco Concepción.....	10,129,043	.....	14,593,907	.....	754,869	.....
National City Bank.....	18,392,093	245,350	15,697,790	403,077	1,451,588	162,251
Popular.....	9,979,719	.....	8,920,734	.....	687,860	.....
Banco Francés de Chile.....	13,471,206	20,074,363	20,807,156	1,732,920	377,238	9,910
Banco Italiano.....	4,618,319	10,817	9,521,513	766,758	744,897	400
Banco de Tacna.....	18,392,093	245,350	4,239,803	1,329,717	578,930	14,150
Banco Germánico de América del Sur.....	3,196,148	1,196,946	7,419,366	701,837	922,416	75,280
Banco Osorno y La Unión.....	7,396,424	.....	14,084,888	.....	888,475	.....
Banco Curico.....	4,422,880	.....	8,305,798	.....	510,141	.....
Banco de Industria y del Com- ercio.....	6,446,839	46,946	7,385,195	46,946	132,668	.....
Banco Yugo-Slavo de Chile.....	5,956,854	2,350,056	10,620,209	1,845,651	574,801	33,488
Banco Comercial de Cúscico.....	911,546	.....	2,098,375	.....	46,529	.....
Banco Constitución.....	598,634	.....	1,194,010	.....	29,548	.....
Llanquihue.....	284,530	.....	1,041,471	.....	5,626	.....
Mulchén.....	344,006	.....	540,277	.....	117,273	.....
Mercantile de Bolivia.....	668,068	99,083	2,653,406	97,377	126,097	1,043
Francisco Muñoz de Arce.....	825,025	74,733	1,111,248	35,483	235,395	43,725
Total.....	855,744,313	238,378,728	1,090,549,388	165,672,067	130,213,220	8,781,285

BANCO HOLANDES IN SANTIAGO.—The Banco Holandés de la America del Sur of Amsterdam, with its main South American office in Buenos Aires, has recently opened a branch in Santiago.

CUSTOMS RECEIPTS.—The import taxes collected by the custom-house of Valparaiso were as follows: Taxes in gold, 12,177,935 pesos; bills, 10,002,913 pesos; and surcharge on bills, 8,426,795 pesos. The surcharge on importation is applied to the taxes in bills under laws 3066 and 1515. During the first 10 months of 1920 the custom-houses of the Republic collected the following amounts: Exports, 81,546,334.17 pesos gold of 18 pence; imports, 32,305,028.43 pesos; other revenues, 3,149,135.42 pesos; or a total of 117,000,498.02 pesos.

EMISSION OF TREASURY NOTES.—The national congress has authorized the President of the Republic to issue treasury notes to the amount of 30,000,000 pesos, the notes to be issued at not less than 1,000 pesos each, at a maximum term of five years, with interest not over 8 per cent, amortizable in thirds in the last three years of the term. The product of these notes will be used to withdraw from circulation the notes issued in loans to the nitrate companies, and the President of the Republic may order extraordinary amortizations of these notes. The banks of issue may withdraw treasury notes in accordance with the provisions of law No. 2912, and the President is also authorized for the term of one year to contract bank credits up to the sum of 20,000,000 pesos, using the equivalent of 15 per cent of the import taxes for the amortization of the notes and of the credits.

COLOMBIA.

BUDGET OF THE DEPARTMENT OF VALLE DEL CAUCA.—The budget of the Department of the Valle del Cauca for the fiscal year ending July 1, 1921, summed between revenues and expenditures 2,080,200 pesos gold.

SUBSIDY FOR PAPER FACTORIES.—The legislative chambers of Colombia approved the project of a law to subsidize paper manufactories in the country and the reduction of import taxes on paper.

MEASURES ADOPTED AGAINST SCARCITY OF CIRCULATION OF MONEY.—The President of the Republic called a meeting of the ministers of the hacienda, treasury, and public works, and the agents of the banks in Bogota. A committee appointed in this meeting advised that use be made of the powers granted by law 51 of 1918. In consequence of this decision the Government issued a decree authorizing the banks to issue gold certificates to bearer based on paper currency, coin, or other specie guaranteed by commercial or agricultural holdings in the conditions expressed by the law of 1918. The emission will be made through the Junta de Vigilancia, which shall authorize the notes and securities presented by the banks which desire to take part in the emission, after which the corresponding

amount of certificates will be turned over to them. The banks' resources can not be used to guarantee the certificates except as these resources exceed the sum of the certificates and according to the prices which the Junta de Vigilancia assigned to the various notes, less 20 per cent. For values in paper money or coin, certificates may be issued to the sum of these values. The banks may change the guarantee of its certificates for others satisfactory to the Junta de Vigilancia, which may at any time demand the exchange or increase of such guarantees. For the sum of certificates not guaranteed in metallic specie the participating banks shall pay the cost of emission over 2 per cent annually to the public treasury. Under these conditions the banks of the country may participate in the emission. The issue of certificates is fixed at 8,000,000 pesos, which shall be entirely redeemed within three years by means of the consignment made by the banks to the Junta de Vigilancia in the four last six months' periods of the time. By the means herein explained the banks will furnish sufficient money for trade.

BUENAVENTURA PERMITTED TO CONTRACT LOAN.—The National Government has authorized the municipality of Buenaventura to contract a loan for the following public works: The installation of an electric light plant, construction of a public office building, and the upkeep of the public highways of the city. Authorization has also been given to the municipality of Ibagué for a loan of \$200,000 for the construction of an aqueduct and to the municipality of Abejorral for a small loan to finish the construction of the main school building in the town.

CUBA.

RAILROAD RECEIPTS.—From July 1 to the middle of November, 1920, the railroads controlled by the Government have collected 2,158,395 pounds sterling, or 351,247 pounds more than the amount collected in the corresponding period of 1919. The receipts of different lines were as follows: Cuban Central, 418,882 pounds; Unidos de la Habana, 1,266,257 pounds; Oeste de la Habana, 215,860 pounds; and the Habana Central, 257,396 pounds.

GENERAL BUDGET FOR 1921.—The President of the Republic presented to congress the general budget for the country for 1921. The revenues are reckoned as follows: Customs receipts, \$53,802,707; port and improvement taxes, \$1,894,322; consular fees, \$1,445,723; revenues from means of communication, \$2,392,919; taxes and various contributions, \$25,849,925; property and rights of the State, \$384,736; different products, \$1,558,125; taxes of the loan, \$4,942,195; national lottery, \$4,366,432; and extra tax on sugar, \$7,500,000; total revenues, \$104,137,085. The expenditures as reckoned in the budget are as follows: Debts of the Republic, \$9,928,902; legislative power, \$2,163,660; judicial power, \$3,869,934; presidential

staff, \$253,850; state, \$1,544,204; justice, \$347,920; Government, \$12,131,420; treasury, \$4,364,087; additional budget of the treasury, \$1,559,804; public works, \$6,349,987; additional public works, \$25,942,172; agriculture, commerce and labor, \$1,413,428; public instruction and fine arts, \$10,615,549; sanitation and charity, \$6,208,260; war and navy, \$17,444,508; total expenditures, \$104,137,085.

MOVEMENT OF THE GENERAL TREASURY.—The receipts and expenditures effected by the General Treasury of Cuba during the seven months from March 1 to September 30, 1920, were as follows: Balance on hand on February 28, 1920, \$6,582,272; receipts in the seven months, public revenues, \$66,294,240; reimbursements, \$3,472,932; and special funds, \$2,934,756, showing a total in the treasury on September 30 of \$79,284,200. The expenditures by budgets, laws, and decrees for the seven months amounted to \$68,705,419, and for special funds, \$1,802,367, or a total expenditure of \$70,507,786, or a favorable balance of \$8,776,414.

DOMINICAN REPUBLIC.

SPECIAL SANITATION BUDGET.—The municipal council of Santo Domingo has approved the special sanitation budget for the present fiscal year, which amounts to 64,419 pesos.

CUSTOMS RECEIPTS.—The customhouse of Puerto Plata during November, 1920, collected 95,751 pesos. With this sum the total collections from January to November of 1920 amounted to 1,548,606 pesos.

NEW BRANCH BANK.—The International Banking Corporation has established a branch bank in the city of La Vega. This is one of several branches this bank has established in the country.

ECUADOR.

WATERWORKS LOAN.—The President of Ecuador has promulgated a decree authorizing the municipality of Guayaquil to contract one or more loans, not in excess of 8,000,000 sucres, the proceeds of which are to be used in furnishing the city of Guayaquil with drinking water.

INTRINSIC VALUE OF SILVER COIN.—Inasmuch as the intrinsic value of the silver in Ecuadorean coins, under exchange rates which have prevailed for some time, is greater than the nominal value of the coins, the Government of Ecuador has deemed expedient, in order to check the exportation of silver coins, to require the banks of issue of the Republic, as long as the condition referred to exists, not to diminish their reserve deposits of these coins.

GUATEMALA.

PROPOSED BANKING LAW.—The President of the Republic has appointed a committee, composed of Julio Samayoa, Ignacio G.

Saravia, Arturo Nottebohm, Eduardo Lewonsky, John Ryerson, and Licentiate Marcial Prem, to study and formulate a new banking law.

HAITI.

NATIONAL EXPENDITURES.—During the month of December, 1920, the national expenditures amounted to 369,346 gourdes and \$212,124, distributed among the different departments as follows: Foreign relations, 4,576 gourdes and \$7,661; finance and commerce, 63,667 gourdes and \$371; interior, 109,455 gourdes and \$142,435; public works, 19,129 gourdes and \$56,691; agriculture, 7,253 gourdes and \$630; public instruction, 140,408 gourdes and \$4,237; justice, 89,531 gourdes and \$2,481; and religion, 3,571 gourdes and \$5,650.

BRANCH BANK.—The Royal Bank of Canada, which has a branch bank in Port au Prince, has recently opened another branch in the town of Cayes.

MEXICO.

MINTING OF MONEY.—From May 26 to November 30, 1920, there were coined in Mexico 31,486,720 pesos in the following proportions: Gold, 10,820,000 pesos; silver, 20,032,000 pesos; and bronze, 634,720 pesos.

RECONSTRUCTION OF THE MEXICAN RAILROADS.—The Government has decided to expend 34,710,000 pesos in the reconstruction of the railroads and the purchase of rolling stock for internal and international traffic. The sum to be used for the railroads will be divided and 18,000,000 pesos will be used for the acquisition and rebuilding of 2,400 cars and 60 locomotives for internal lines, and 16,710,000 pesos will be used for the purchase and reconstruction of 200 engines for international railroad lines.

REVENUES AND EXPENDITURES OF THE FEDERAL DISTRICT.—During November, 1920, the movement of the treasury of the federal district was as follows: Balance on November 1, 151,175 pesos; receipts during the month, 1,879,215 pesos; total, 2,030,390 pesos. Expenditures during the month, 1,898,311 pesos, showing a balance of 132,079 pesos for December.

CUSTOMS COLLECTIONS.—The customhouse of Vera Cruz collected during November, 1920, 2,034,204 pesos gold.

PARAGUAY.

NEW ISSUE OF BILLS.—The President of the Republic has sent a message to congress asking for authorization to issue the sum of 20,000,000 pesos. The message says in part: Of the 30,000,000 pesos of the emergency emission there remain disposable 8,403,000. The lack of Government bills and the urgency of the situation made it necessary for the exchange office to give 9,297,000 pesos of its

resources, together with 12,403,000 pesos from the section of money exchange, to make up the 21,700,000 pesos withdrawn, producing a temporary lack of funds in the office. The President believes it necessary that the office of exchange, Banco Agricola, and other administrative offices which handle money should be authorized to aid in lightening the difficulties of the situation.

BANCO CENTRAL DE LA NACIÓN.—The President expects to establish a national bank with the name of Banco Central de la Nación which shall have the custody of the Government funds, now separated among various branches of the Government, and to handle the financial transactions of the Government.

ACQUISITION OF BILLS AND NICKEL COINS.—The chamber of deputies approved the draft of a law authorizing the President to acquire from the Banco de la República, for the sum of 12,500 pesos coined gold, 399,000 nickel 5-centavo pieces, 792,000 10-centavo pieces, and 996,000 25-centavo pieces. The nickel coins will be given over to the office of exchange, which will place them in circulation at the valuation of 50 centavos, 1-peso, and 2-pesos paper, and the bills will be put in circulation with a value of 1,000 pesos paper each.

INTERNAL REVENUE.—The internal revenue collected in the capital of the Republic for November, 1920, amounted to 2,048,281 pesos paper and 180 pesos gold, as against 1,103,243 pesos paper and 137 pesos gold in November, 1919.

PERU.

BANKS OF LIMA.—The disposable coin of the banks of Lima, as of September 30, 1920, was as follows: Gold, 484,222 Peruvian pounds; silver, 71,496 pounds; and in foreign banks, 4,337,466 pounds, distributed as in the following banks—Banco Popular del Peru: Gold, 18,379 Peruvian pounds; silver, 5,275 pounds; deposits in foreign banks, 237,953 pounds. Banco Alemán Transatlántico: 108,576 pounds gold, 10,627 pounds silver, and 645,958 pounds deposited in foreign banks. Banco Internacional del Perú: 11,795 pounds gold, 1,540 pounds silver, and 113,914 pounds deposited in foreign banks. Banco del Perú y Londres: 96,767 pounds gold; 32,721 pounds silver, and 58,647 pounds deposited in foreign banks. Banco Italiano: 53,638 pounds gold, 20,178 pounds silver, and 567,412 deposited in foreign banks. Banco Mercantil Americano: 90,997 pounds gold, 1,116 pounds silver, and 1,434,737 pounds deposited in foreign banks. Caja de Ahorros: 99,970 pounds gold. National City Bank of New York; 4,100 pounds gold; and deposited in foreign banks 380,225 pounds, and the Banco Anglo Sud Americano, 40 pounds silver, and on deposit in foreign banks 898,620 pounds.

CIRCULATION OF BILLS.—On September 30, 1920, the state of the circulation of bills and the gold guarantee was as follows: Caja de Ahorros of Lima: Gold on deposit, 280,000 Peruvian pounds; bills issued, 294,488 pounds. Banco Alemán Transatlántico: Gold on deposit, 365,000 Peruvian pounds, and bills issued, 597,856 pounds. Banco Popular del Perú: Gold on deposit, 780,008 pounds, and bills issued 1,415,639 pounds. Banco Internacional del Perú: Gold on deposit, 240,760 pounds, and bills issued 761,121 pounds. Banco del Perú y Londres: 855,913 pounds gold, and 1,906,476 pounds bills issued. Banco Italiano: Gold on deposit, 981,078 pounds and bills issued 1,871,874 pounds. Junta de Vigilancia: Gold on deposit 350,617 pounds, and bills issued 350,617 pounds, respectively. United States banks (in accordance with law No. 2776) had 2,440,149 pounds in gold on deposit, and the London banks 620,240 pounds. Thus the bills in circulation on September 30, 1920, totaled 7,198,071 Peruvian pounds, and the gold guarantee amounted to 6,913,765 pounds.

URUGUAY.

CUSTOMS COLLECTIONS.—During October, 1920, the customs revenue amounted to 1,089,065 pesos, as against 1,507,852 pesos for the same month of the previous year or a diminution of 418,787 pesos. The revenue from this source for September, 1920, was 960,050 pesos.

STATE OF THE BANKS.—On October 31, 1920, the general state of the banks established in the Republic of Uruguay was as follows: Banco de la República, capital, 18,683,340 pesos; on hand, 58,271,457 pesos of which 55,416,704 pesos were gold and 2,854,753 pesos silver; deposits on current accounts, 48,943,436 pesos; savings and time deposits, 18,257,916 pesos; and loans, 94,796,967 pesos. Other Uruguayan banks: Capital, 11,440,033 pesos; on hand, 8,283,998 pesos, of which 1,998,908 pesos were coined gold and 6,227,180 pesos greater emission, and 57,910 pesos of the lesser emission in silver and nickel; deposits on accounts current, 9,968,201 pesos, and in savings and time deposits, 15,468,500 pesos; and loans, 29,993,389 pesos. Foreign banks: Capital, 3,727,222 pesos; on hand, 22,613,790 pesos, of which 2,804,516 pesos were coined gold and 19,667,580 pesos of the greater emission, and 141,694 pesos silver and nickel of the lesser emission; deposits on accounts current, 23,750,046 pesos; in savings and time deposits, 20,147,590 pesos; and loans 33,140,329 pesos. The banks together had a capital 33,850,595 pesos; on hand, 89,169,254 pesos, of which 60,220,128 pesos were coined gold, 25,894,760 pesos of the greater emission, and 3,054,357 pesos of the lesser emission in silver and nickel; deposits on accounts current, 82,661,684 pesos; savings and time deposits, 53,874,006 pesos, and loans 157,930,685 pesos.

MORTGAGES.—In the nine months' period from January to September, 1920, 3,602 mortgages were contracted on 4,167 pieces of

property for 29,176,910 pesos. During the same period 3,515 mortgages, affecting 4,032 pieces of property, amounting to 18,353,421 pesos, were canceled.

LIGHT AND SANITATION TAX.—A law has been passed imposing a 3 per cent tax on the total rents of buildings in the zones of the city of Montevideo where there is city lighting and sanitation service, for the purpose of maintaining these services. Lessees of property must pay the tax, but owners of the property are held responsible for the payment thereof. Unoccupied land, land on which buildings are being erected, and estates and gardens adjoining country seats are taxed at the regular rate for buildings and additionally 5 per cent on the value of each square meter. Buildings housing industries, business, and professions are also subject to extra taxes of various kinds.



INTERNATIONAL TREATIES

BRAZIL—BELGIUM.

On November 13, 1920, Brazil concluded a commercial treaty with Belgium, a translation of which, made by the United States Bureau of Foreign and Domestic Commerce, is as follows:

I. The Brazilian Government, through the Bank of Brazil as its intermediary, will open a credit for the Belgian Government up to the sum of 100,000 contos of reis, in paper money (about \$14,250,000 at present rate of exchange), to be employed in accordance with the Brazilian laws covering exportations, for the purchase of cereals, dried or refrigerated meat, lard, coffee, rubber, cacao, cotton, sugar, and other Brazilian products for which there is a demand in Belgium, the purchases to be made in accordance with the necessities of the latter country and at the discretion of its Government.

II. Expenses for freight, insurance, or other charges, relative to the transportation of the products mentioned in the preceding clause, will accrue for the account of the Belgian Government which will liquidate them, but these charges may be paid by the Bank of Brazil by the same process as that employed with merchandise.

III. Payments in excess of 3,000 contos of reis, which are to be met by the Bank of Brazil, must be preceded by a 6-day notice.

IV. The Belgian Government, in proportion to its purchases of Brazilian products, will mark to the credit of the Brazilian Government in a current account, which will be opened for it in the books of the Banque Nationale de Belgique, in Brussels, the amount in Belgian francs at the exchange of the day corresponding to the sum paid in paper in Rio de Janeiro.

V. As long as the credit of 100,000 contos of reis lasts, the available balance of this account will be put entirely at the disposition of the Brazilian Government for the purchase of merchandise in Belgium and the payment of the debts of Brazil, which also have to be liquidated in Belgium in the money of the country.

VI. The current account will draw interest at 6 per cent per annum and will be calculated semiannually during a period of two years, at the end of which time liquidation will be made of the balance belonging to either of the two Governments and payment immediately made. This liquidation will be calculated on the current rate of exchange for the money of the two countries, the value of Belgian francs to be deducted from the total sum in contos of reis paid for the account of Belgium.

If the amount thus balanced should exceed the total of the credit opened to Brazil in accordance with Clause IV, the current account of the Brazilian Government will be credited for the difference, and in the contrary case debited, the balance then being liquidated.

VII. Whenever possible, Brazilian ships shall have the preference for the transportation of the merchandise acquired in Brazil, and likewise Belgian ships shall have the preference for merchandise which may be imported from Belgium by Brazil under the present treaty.

VIII. Any legal difficulty arising from the execution of this treaty in connection with the purchase of the Brazilian products in Brazil shall be settled by the Brazilian courts, and in like manner all legal difficulties concerning the purchase of merchandise in Belgium shall be settled by the Belgian courts.



LEGISLATION

CHILE.

CHANGES IN THE LAW OF RECRUITING AND REENLISTMENT.—The Official Bulletin of the Ministry of War has published the changes made in the law of recruiting and reenlistment in the army as made by the legislative power. The change provides for the regular recruiting for the army and the navy upon the principle of obligatory service for all fit Chilean citizens. Other provisions of the law are the following: The establishment of one year's service in the army and two years' service in the navy; the delay or hastening of the service period of university students so as not to abruptly break into their studies; the limitation of reasons for exemption and the naming of a period of time in which claims for exemption must be made; the creation of recruiting offices in each one of the departments of the Republic; and the recognition for time spent as a student in schools of military or naval instruction with the permission of the military authority.

COLOMBIA.

ACQUEDUCT FOR AGUA DE DIOS.—Law 2 of August 19, 1920, appropriated the necessary sums for the repairs and enlargement of the aqueduct of Agua de Dios, where the principal lazaretto is located.

SANITATION OF VARIOUS CITIES.—Law 27, October 14, 1920, appropriated the sum of \$550,000 in Colombian bonds of the internal debt

for the work of sanitation in the cities of Cartagena, Barranquilla, Buenaventura, and Bucaramanga.

ROADS.—Law 16 of September 24, 1920, authorized the department of Valle to use its treasury funds to continue the construction of the southeast road within its territory. Law 19 of October 1 voted the necessary funds to finish the Oriente road from Bogota to Puerto Calamar across the Unilla River. Law 3 of September 10 appropriated 200,000 pesos annually to finish the highway of the north running through the departments of Cundinamarca, Boyaca, and Santander. Law 65, November 11, declares the Puerras-Rio Guames road and the Salina de Zipaquira road to the Railroad of the North to be national highways and appropriates funds for their completion. Law 82, November 18, authorizes the Government to acquire the ownership of the Tame-Arauca road.

RAILROADS.—Law 26, October 8, 1920, orders the Government to make use of the rights and shares in the Santa Marta Railway Co. (Ltd.), and authorizes it to obtain the necessary loans for the acquisition of the property and possession of the Santa Marta Railway. Law 80, November 16, regulates the legal conditions governing the Sabana Railroad with reference to the nation and the department of Cundinamarca, and lays down the conditions for the acquiring of a loan to continue the railway to Lower Magdalena. Law 86, November 20, orders the making of surveys and plans for the railroads to be built in the Intendencia del Choco and the contraction of the loans for their construction.

RAILROAD POLICE.—Law 76, November 15, lays down the rules for the policing of the railroads of the Republic and the penalties to be imposed upon persons acting against the rules.

NAVIGABLE STREAMS AND RAILROADS.—Law 46, October 30, 1920, orders the charting of navigable streams, especially of the Magdalena, and authorizes the contraction of the necessary loans to carry out the work. This same law declares the Carare Railroad and the Central del Norte Railroad to be necessary and appropriates sums for their construction.

IMMIGRATION AND ALIENSHIP.—Law 48, November 3, regulates immigration and alienship, tending to increase the former, but prohibiting the entrance of suspicious or undesirable persons.

DRUGS CONDUCIVE TO PERNICIOUS HABITS.—The law of September 15 regulates the importation and use of drugs liable to cause the formation of pernicious habits. The importation and sale of such drugs as opium, morphine, cocaine, their salts and derivatives, are covered.

CONCESSION OF UNOCCUPIED LANDS.—Law 42, October 27, cedes to the departments of Antioquia and Cauca 2,000 hectares and 5,000 hectares of unoccupied lands, respectively, for the founding

of penal colonies. There are also ceded to the municipalities of Arboledas, Convencion, Chinacota, Salazar, and Victoria 3,000 hectares each.

POPAYAN POST OFFICE.—Law 31, October 14, appropriated sums for the purchase and adaptation of a building for the post office in Popayan.

TELEGRAPH LINE.—Law 12, September 17, orders the construction of a telegraph line between Barranquilla and Ocana passing through the cities of El Banco and Magangué.

COSTA RICA.

PENSIONS.—Under the law authorizing the reorganization of the government printing office, every employee of that office over 55 years of age, who is in need and who is not already pensioned by the Government, is entitled to a pension of 60 colones (colon = \$0.4653) per month, after complying with the necessary formalities specified by the law, provided he has worked 25 years in Costa Rica in some branch of the printing trade. The payment of pensions will not begin until the pension fund contains at least 3,000 colones.

ECUADOR.

TAXES ON INHERITANCES, LEGACIES, AND DONATIONS.—The congress of Ecuador has enacted a law imposing a sliding scale of taxes on inheritances, legacies, and donations of 10,000 sucres and over. These taxes vary from 1 to 3 per cent, according to the amount involved.

GUATEMALA.

INTERNAL-REVENUE STAMP LAW.—El Guatemalteco, the official newspaper of the Guatemalan Government, republished on November 27, 1920, the stamp law of November 5 last, consisting of 34 articles, imposing stamp taxes on contracts, documents, drafts, sales of tobacco, playing cards, etc., classified under 85 different headings. The rules and regulations, contained in 53 articles, regulating the enforcement of this law, were published in the Official Gazette of Guatemala of November 13, 1920.



PUBLIC INSTRUCTION AND EDUCATION

ARGENTINA.

SECOND CONGRESS OF NORMAL GRADUATES.—The second congress of normal graduates has decided to do away with examinations in the present form and numerical classifications and marks of grading, leaving to the judgment of the teacher the selection of pupils for promotion. Important changes in the qualifications and restrictions of teachers were made, and also changes and increases in plans for the character and number of normal schools.

BAKERS' COURSE IN MINNEAPOLIS.—The Argentine ambassador to the United States, who is the founder of the *Universidad Popular de la Boca*, has offered to pay passage and costs of maintenance of two student bakers from Argentina in Minneapolis for eight months. The conditions of this offer are that each appointee be a student of one of the popular universities of Argentina and that he be able to speak English.

AMERICAN ACADEMY OF HISTORY.—The American Academy of History (*Academia Americana de la Historia*) held a meeting in honor of the fourth centennial of the discovery of the Straits of Magellan. The meeting was attended by delegates from Spain and from the Americas. Dr. Sarmiento, president of the academy, read a paper on "The History of Geographical Explorations along the Rio de la Plata during the Colonial Period."

UNIVERSITY EXTENSION COURSE.—The university extension course in the Mariano Moreno National College will include the subjects of telegraphy and wireless. These courses will be given to students free.

MEETING OF THE COUNCIL OF EDUCATION.—The council of education has ordered that plans be drawn for school playgrounds and gardens, and has accepted the gift of land and a building for school No. 7 in the jurisdiction of Carlos Casares. The council also authorized the general directorate to accept the budget of 66,969.65 pesos for the construction of a building in Moreno.

BRAZIL.

PROPOSED CHANGES IN THE EDUCATIONAL SYSTEM OF SAO PAULO.—The governor of the State of Sao Paulo has recommended to the legislature of that Commonwealth the establishment of a two years' course of compulsory education in primary schools and the maintenance of a fund for industrial education. It is further recom-

mended that children under 10 years of age be prohibited from studying foreign languages in the public schools.

ARCHEOLOGIC INSTITUTE.—The archeologic institute in the State of Pernambuco recently moved into its new building at Recife.

HOSPITAL FOR MEDICAL SCHOOL.—During the latter part of the past year the construction of the hospital of the School of Medicine of Bahia was begun. This hospital will be used for clinical instruction for the medical students.

POLYTECHNIC INSTITUTE.—The polytechnic institute at Florianopolis, State of Santa Catharina, has improved its courses in dentistry, pharmacy, and surveying, and has added to its dental instruction a course on the use of electricity in dentistry.

CHILE.

EXCHANGE OF PROFESSORS.—Owing to the efforts of the French minister in Chile arrangements are being made for the exchange of professors between the universities of Paris and Santiago. Five professors from Paris will come to Santiago and five Chilean professors will go to Paris to lecture on the industries, arts, and sciences of Chile.

RECONSTRUCTION OF THE LICEO DE HOMBRES (MEN'S LYCEUM).—Money has been appropriated for the rebuilding of the Liceo de Hombres, which was destroyed by the earthquake of 1906, and work on the structure will be begun as soon as possible.

CHILE-AMERICAN ASSOCIATION MINING SCHOLARSHIP.—A scholarship in mining at the Massachusetts Institute of Technology has been established by the Chile-American Association, which provides funds for travel expenses and for the three years' course necessary for a graduate degree. Qualifications for this mining scholarship are that a recent graduate of some Chilean mining school pass a competitive examination arranged by the President of the Republic in cooperation with the members of the Chile-American Association in Chile. The President will then designate the successful candidate. The management of the scholarship will be under the members of the association in the United States in coordination with the Chilean ambassador at Washington. The Chile-American Association includes in its membership North American companies having investments employed in the development of Chile's natural resources, and also the principal firms engaged in business between Chile and the United States. The association has a notable list of honorary members, among whom are Señor Don Beltran Mathieu, Chilean ambassador to the United States; Hon. Joseph Shea, American ambassador to Chile; Nicholas Murray Butler, president of Columbia University; Dr. Leo S. Rowe, Director General of the Pan American Union; Henry P. Fletcher, former American ambassador to Chile; and Señor Don Emilio Edwards, consul general of Chile, in New York.

COLOMBIA.

PILOTS AND EQUIPMENT FOR THE MILITARY SCHOOL OF AVIATION.—Six French pilots engaged by the Government as instructors arrived headed by Capt. René Adolph Guichard, decorated in the war and recommended by the chief of the French air service. The first six aeroplanes also arrived with the necessary equipment to begin the instruction. All the necessary machinery is now at Barranquilla to equip the war munitions factory in Bogotá. The installation will be superintended by engineers of the Western Cartridge Co.

SCHOOL OF COMMERCE IN UNIVERSITY OF CAUCA.—A school of commerce is to be incorporated in the University of Cauca to enter which students must have completed the necessary preliminary studies. The school will be opened at the beginning of the present school year.

DOMINICAN REPUBLIC.

EDUCATIONAL LECTURES.—In Santiago, Celedonio Delgado, a Porto Rican teacher, has given educational lectures, one of the subjects being the "Importance and Magnitude of the Educational Problem in the New World."

CHANGES IN THE GENERAL LAW OF STUDIES.—The following changes have been ordered in the General Law of Studies (Executive order No. 145 of Apr. 5, 1918): To article 39 was added: "That the graduate of medicine who presented a thesis in accordance with former laws is not obliged to present a new thesis to obtain the title of doctor after he has been approved in the subjects prescribed by this article for the degree of doctor of medicine. To article 48 was added the following: "That the graduate of law who presented a thesis in accordance with former laws is not obliged to present a new thesis to obtain the title of doctor of laws, after he has been approved in the subjects prescribed by this article for the degree of doctor of laws."

ECUADOR.

AVIATION SCHOOLS.—A law of the Ecuadorian Congress recently promulgated provides for the establishment of aviation schools in Guayaquil and Quito under the direction of foreign experts. Funds will be provided by the Government for the maintenance of these schools. The public has contributed a large sum for the purchase of airplanes. The Guayaquil school is to be established under the direction of an Italian aviator.

NATIONAL MEJIA INSTITUTE.—A law has been promulgated imposing a special tax on liquors entering the Province of Pichincha, the proceeds of which are to be used in the erection and furnishing of a building for the National Mejia Institute.

DENTAL CURRICULUM.—The board of public instruction of the department of education of the Ecuadorian Government has prescribed that the studies recommended by the Latin American Dental Federation shall be adopted by the Dental Collège of Ecuador, and that diplomas shall be issued by that college to dental students who have satisfactorily completed said studies.

VETERINARY CLINICS.—The Central University in Quito has established a course in veterinary clinics.

GUATEMALA.

NORMAL SCHOOLS.—The department of public instruction has planned to establish two normal schools in the national capital, one of which is to be used entirely for the preparation of native teachers as instructors in elementary branches in rural schools. The other school will be utilized to train teachers as instructors in the higher grades in urban schools. A normal school for girls is also to be established at Antigua, and normal schools will be conducted in Chiquimula and Quezaltenango, in connection with the educational institutions now in operation in those places.

MEDICAL AND SURGICAL SOCIETY.—The Medical and Surgical Society of Guatemala was recently established in the national capital, under the presidency of Dr. Mario J. Wunderlich, for the purpose of promoting the progress of the science of medicine in the Republic.

PROPOSED MODIFICATION OF LAW OF PUBLIC INSTRUCTION.—President Herrera has appointed Licentiate Salvador Corleto to study, in conjunction with such other persons as he may deem expedient to select, the proposed changes in the law of public instruction.

MEXICO.

TEACHERS' CONGRESS.—In December, 1920, the National Congress of Teachers was held in the City of Mexico. The following were elected to the executive committee: President, Ezequiel A. Chaves; vice president, Toribio Velasco; and secretary, Higinio Vásquez Santana.

SCHOOL OF CHEMICAL SCIENCES.—The National University has selected the preparatory subjects which students must have finished in order to take up the technical chemical course, the analytical chemistry course, and the pharmaceutical chemistry course. The preliminary subjects required by the School of Chemical Sciences for entrance into these courses are: First year, first course of mathematics; first course French; first course Spanish; physical and general geography; drafting and manual training. Second year, second course French; second course mathematics; first course English; general history; national history; physical geography, theoretical and experimental; and second course Spanish. Third year, theoretical

and experimental chemistry; elements of botany; elements of zoology; second course English; elements of mineralogy and descriptive geometry.

INSTRUCTION FOR ILLITERATES.—According to data submitted by the National University, in four months the corps of honorary professors created by this institution to undertake an active campaign against illiteracy have instructed some 10,000 illiterates. This corps of teachers now numbers 2,000 members, who are teaching reading and writing all over the country.

EDUCATION IN SONORA.—In the State of Sonora there are 377 primary schools attended by 36,000 students and taught by 1,000 teachers. There are also private schools run on the Government plan and who have over 300 pupils. The State maintains two commercial schools and two industrial schools, with 60 teachers and an enrollment of 700 pupils; a preparatory school and a normal school for teachers, taught by 33 teachers and attended by 100 pupils.

NEW SEMINARIES.—A recent pastoral letter sent out by the archbishop of Puebla provides for the founding of five seminaries in the most important cities of the archdiocese which are: Teziutlan, Matamoros, Santa Ana, Chiautempan, San Andres, Chalchicomula, and Acatzingo.

SCHOOL STATISTICS.—In the municipality of Guadalajara there are 11 night schools for men, 658 enrolled and 398 attending, and 8 night schools for women, 811 enrolled and 475 attending.

NICARAGUA.

DOCTOR OF LAWS.—The department of public instruction has issued an order establishing a five-year course for the degree of doctor of laws. One of the entrance requirements is a degree of bachelor of arts and sciences.

NEW TEXTBOOKS.—Contracts have been made by the department of public instruction to secure from the United States during the present year modern textbooks to the value of \$25,000.

SCHOOL BUILDINGS.—An American company which makes a specialty of building schoolhouses is negotiating with the Government of Nicaragua for the construction of a number of school buildings.

UNIVERSITY BUILDING.—The department of public works has requested bids for the erection of a building at the new university.

PERU.

MEDAL OF HONOR.—A prize of a medal of honor has been instituted to be awarded each year to the pupils obtaining the highest

classification in the military examination of the year in the schools of the Republic having a military section. The medal will be gold, bearing on the face the inscription "Medal of honor," and on the reverse side, "Prize to the best student of military instruction."

MIXED SCHOOLS.—In the budget of public instruction the necessary funds have been appropriated for the founding of coeducational schools in the towns of Arraipite and Tacalpo of the district of Ayabaca, and in Simiris, in the district of Santo Domingo, both in the Province of Ayabaca. A girls' school is to be established in Lomas, in the Province of Camana.

POPULAR UNIVERSITY.—Among other plans the popular university will undertake the following program: The first year's work will be devoted to spreading education as much as possible among the working classes by establishing several chairs of the same course so as to include the largest number of students possible. The university will endeavor to forward education as much as possible, and will maintain an investigation into the state of the elementary schools and the statistics of illiteracy in Peru. The work of the university shall have no political connection. Students of this institution may not form a part of any political party and should make the fact publicly known.

URUGUAY.

SCHOOL OF AGRICULTURE.—The minister of public instruction has approved the plans of the school of agriculture to institute annual conferences covering the subjects taught in the institution. Every year, in March, registration will be made of the persons desiring to take the lecture course, and the directive council of the agricultural school will elect the person or persons to conduct the conferences.

INDUSTRIAL TRAINING.—In Villa del Cerro a night school of industrial training was inaugurated under the direction of Señor Adán Gianoni. The course includes classes in drawing and applied mechanics, mechanics, and carpentry, the last two having been chosen as most useful in the industries of that place.

EDUCATIONAL COLONY FOR BOYS.—The Council of the Protectorate of Delinquents and Minors has been authorized to expend the sum of 170,000 pesos in the acquisition or construction of a building for the educational colony for boys No. 2. The council has also been authorized to found a city home for minors, which will include two separate establishments, one for minors convicted of crimes and the other for minors held for lesser delinquencies; and the council will also install in the Colonia Suarez grounds for sports and athletic games a library, a dental clinic, an infirmary, and a policlinic for medicine and sur-

gery for the inmates. The sum of 50,000 pesos has been appropriated for the city home for minors, and for the improvements to the other institution 20,000 pesos.

VENEZUELA.

THE FOUNDING OF NEW SCHOOLS.—In consequence of the educational program the Government is founding new schools, both primary and secondary, throughout the Republic. Four primary schools have been recently founded in the State of Cojedes and a graded school for boys in the city of Tariba, District of Cardenas, State of Tachira.

USE OF HISTORY AS TEXT FOR SCHOOL READERS.—The ministry of Public Instruction has sent an historical pamphlet to the technical school inspectors for use in the higher grades of the federal primary schools to replace miscellaneous reading, thus placing in the hands of scholars the history of their heroes of the independence, such as Bolivar and others of that epoch. The ministry will provide a sufficient number of these textbooks for use throughout the schools.

THE PUBLIC INSTRUCTION MEDAL.—The President has awarded the medal of public instruction to Dr. Domingo Antonio Coronil and to Rev. Edmund A. Walsh, S. J., regent of the School of Foreign Service of Georgetown University, Washington, D. C.

PREPARATORY DIPLOMATIC COURSE.—The special course preparatory to the diplomatic career which was opened in the School of Political Sciences of Caracas in 1916 on December 16, and concluded November 20, 1920, is the first of its kind in Venezuela and is a great advance in fitting young men for the proper diplomatic and consular service of the country. The subjects covered in the course are: International law in its relation to the international law of Venezuela; studies of diplomatic and consular duties; history of international law especially international law in America; diplomatic history of Venezuela; jurisprudence under the ministry of foreign relations; diplomatic forms; analysis of public treaties of Venezuela; commercial politics; principles of civil, mercantile, penal, and international law; principles of constitutional law; principles of finance and treasury laws of Venezuela; principles of political economy; accounting and correspondence; economic geography; commercial arithmetic; commercial and industrial economics; history of commerce; French and English languages, and rudiments of German and Italian.



GENERAL NOTES

ARGENTINA.

OPENING OF THE SPANISH ORPHANS' AND IMMIGRANTS' ASYLUM.—On November 7 in Buenos Aires, the Patronato Español opened the newly constructed asylum for Spanish orphans and immigrants minor. The intendent of the city with his staff, a representative from the Spanish embassy, delegates from various institutions, and prominent members of the clergy and society attended the ceremonies, consisting of mass said in the chapel of the asylum by Monsignor Vassallo di Torregrossa and an address by Dr. Avelino Gutiérrez. The building is of two stories, with an assembly hall, offices, classroom for four grades, three dormitories, infirmary, and two religious departments. At present there are 40 orphan girls in the care of the institution.

SIXTH ZIONIST CONGRESS.—On November 3 in Buenos Aires the sixth Zionist congress was opened, being the third anniversary of the declaration of Balfour establishing Palestine as the home of the Jews. The invited guests included the British ambassador, the Argentine authorities, and delegates from Jewish societies in Chile, Uruguay, and Paraguay.

FIFTIETH ANNIVERSARY OF THE CIVIL CODE.—January 1, 1921, was the fiftieth anniversary of the Argentine Civil Code and appropriate exercises were held to commemorate the event. Various monographs were prepared by the students and faculty of civil law on the code and its author, Dr. Vélez Sársfield, which will later be incorporated in a book of commentaries on this jurist and his work. A statue to commemorate Dr. Vélez Sársfield will be erected in the patio of the new civil law school building, and upon the opening of the course of 1921, Dr. Alfredo Colmo, the oldest professor of civil law, will deliver a lecture upon the influence of the Argentine Civil Code upon the national life of the country. Independent of these arrangements Dr. Jorge Cabral Texo published a work entitled "Origin of the Argentine Civil Code," which deals with the life and work of Dr. Vélez Sársfield. The faculty of law and social sciences has decided to authorize the publication of this work.

ACQUISITION OF AEROPLANES.—In order to increase civil aviation the ministry of war has authorized the director of the Argentine air service to acquire aeroplanes in foreign factories acting as agent for aero clubs or individuals. The promilitary aviation committee is raising subscriptions for the donation of several squadrons of aeroplanes to the army and the building of regional airdromes.

LAYING OF CORNER STONE OF THE SURGICAL CLINIC INSTITUTE.—On October 31 the corner stone of the Surgical Clinic Institute was laid in the presence of a large gathering, among whom were the minister of public instruction; the dean of the School of Medicine, Dr. Lanari; the director general of architecture of the ministry of public works; the professor of clinical surgery, Dr. José Arce, and other surgeons and medical students. The address delivered by Dr. Arce after the laying of the stone outlined the future institute, which he said would contain 120 beds in different wards and rooms, with all the modern equipment necessary for proper care of this number of patients; three operating rooms; an X-ray installation; a laboratory with four sections; a conference hall, with a moving-picture machine; and a section for heliotherapy.

KING ALFONSO RECEIVES DR. LUIS MITRE.—On December 4 King Alfonso granted an audience to Dr. Luis Mitre, in which he expressed interest in the growth of friendly and commercial relations between Spain and Argentina, and stated that he might visit Argentina next year.

HOMAGE TO GEN. URQUIZA.—There was a nation-wide celebration in honor of Gen. Urquiza on the date of the pact of national union showing the feeling aroused by the anniversary of this history-making event. There were naval and military parades and parades by school children, addresses in colleges and schools on the subject of Urquiza and his work. Many delegates went from various cities in the Argentine Republic to take part in these celebrations when his statue was unveiled in the Province of Entre Rios.

ARGENTINE MISSION TO THE MAGELLAN CELEBRATION.—An Argentine mission headed by the minister plenipotentiary, Dr. Carlos Noel, to be present at the celebration in the neighboring Republic of the fourth centennial of the discovery of the Straits of Magellan, left for Chile the middle of November.

SIGNOR ORLANDO VISITS ARGENTINA.—Hon. Signor Victor Manuel Orlando, ex-premier of Italy, with his family, visited Argentina, where he was received enthusiastically not only by his countrymen, but by the Argentine Nation.

BRAZIL.

DEPARTMENT OF PUBLIC HEALTH.—A National department of public health was established by congress on October 1, 1920, under the direction of Dr. Chagas. The department is divided into nine sections, the principal ones of which are as follows: Rural prophylaxis, tuberculosis, venereal diseases, land prophylaxis, and maritime service.

INSTITUTE OF HISTORY AND GEOGRAPHY.—The Institute of History and Geography of Rio Grande do Sul was installed in Porto Alegre in November, 1920.

EXHIBIT OF ITALIAN ART.—Recently an exhibit of Italian art was held at Recife, State of Pernambuco.

NEW TELEGRAPH LINE.—The municipality of Conquista, State of Bahia, has arranged for the construction of a telegraph line between Conquista and Jequié. The approximate cost of the installation will be 10 contos.

INSURANCE COMPANIES.—The *Diario Oficial* of October 31, 1920, publishes the rules and regulations, consisting of 106 articles, under which insurance companies are permitted to operate in Brazil.

REMAINS OF THE EX-EMPEROR AND EMPRESS OF BRAZIL.—On January 10, 1921, the Brazilian battleship *São Paulo* arrived in Rio de Janeiro from Portugal with the bodies of the former Emperor of Brazil, Dom Pedro II, and Empress Thereza Christina, who were exiled from the Republic at the time of its establishment in 1889. The remains will be buried in Brazil with appropriate ceremonies. The caskets were accompanied by Count d'Eu, husband of Princess Isabel, and his son, Prince Pedro de Braganza, and by the former Emperor's secretary. Princess Isabel, who as regent signed the decree freeing the slaves a year before the family was exiled, was unable to accompany the remains because of ill health.

CHILE.

PRESIDENT ALESSANDRI'S CABINET.—The new cabinet formed by President Alessandri is composed of the following: Minister of the interior, Don Pedro Aguirre; minister of foreign relations, Don Jorge Matte; minister of justice and public instruction, Don Armando Jaramillo; minister of the treasury, Don Daniel Martner; minister of war and marine, Don Carlos Silva Cruz; and minister of industry and public works, Don Zenón Torrealba.

NEW MINISTERS PLENIPOTENTIARY.—Dr. Enrique Martínez Thedy had been appointed by the Government of Uruguay envoy extraordinary and minister plenipotentiary to the Government of Chile; and the new minister from Mexico to Chile is Dr. Enrique Gonzalez Martínez, both of whom were received in the first part of November. These diplomats are intellectual men of their respective countries and known all over America. The Mexican minister was founder and director of the magazine called *Mexico Moderno* and leader of the new literary school of his country. He has published 10 books of verse and 2 books of prose, a large part of his work being translations from the French, Portuguese, and English. The literary personality of Gonzalez Martínez has been commented upon by some of the best magazines of the United States and Latin America.

SOCIETY OF COMPOSERS.—A society of national composers of music has been formed in Santiago. The executive committee is as follows: President, Señor Celerino Pereira; vice president, Señor Pedro Humberto Allende; secretario, Señor Auíbal Aracena; Tesorero,

Señorita María Luisa Sepúlveda; directors, Señores Próspero Bisquertt and Eliodoro Ortiz de Zarate.

NEW TELEGRAPHIC KEY INVENTED.—Señor Augustín Sanhueza, professor of the telegraph battalion of the Chilean Army, has lately invented a telegraphic sending apparatus which operates without an electric generator or poles. It is easily operated and easily transported, for its weight is less than 3 kilos, and its manufacture economical.

SWEDISH SCIENTIFIC EXPEDITION.—A Swedish scientific expedition has arrived in Chile, under the leadership of Prof. Nordenskjöld, to make geological and biological explorations in the Republic.

COLOMBIA.

NEW AUTOMOBILE ROADS.—The government of the department of Tolima will build an automobile road to open communication with the department of Caldas. The first 43 kilometers of the road have been opened to public use.

NEW HIGHWAY.—A new highway has been begun to unite the two coast cities of Cartagena and Baranquilla.

FIGHT AGAINST HOOKWORM.—From various regions of Cundinamarca news has come that the people are daily showing more confidence in the methods of the campaign against hookworm and are cooperating as much as possible with the sanitary commissions.

PREPARATIONS FOR THE CENTENARY.—The department of the north of Santandar is preparing to celebrate the centennial of the meeting of the congress of Cucuta. There is to be an industrial exposition and also an art exhibition, and a building is now in course of construction for the babies' clinic.

EXHIBITION OF PAINTINGS IN BOGOTA.—The exhibition of paintings organized by the Fine Arts Club was held in the pavilion of fine arts in the Bosque de la Independencia. Well-known artists submitted pictures and there were many works of real merit.

COLOMBIAN LADY RECEIVES DUKE OF ALBA'S PRIZE.—For the first time in the existence of the Royal Academy of History in Spain that body has conferred a prize upon a woman. Señora Mercedes Gailbrois de Ballesteros won the Duke of Alba's prize of 12,000 pesetas in a history contest, writing on the reign of Sancho IV.

NEW VENEZUELAN MINISTER TO COLOMBIA.—The press of Caracas and of Bogota published the appointment of Señor don Domingo Antonio Coronil as minister plenipotentiary and envoy extraordinary from Venezuela to Colombia.

NEW BRIDGE.—In the department of Santander Norte the Julio Arboleda Bridge connecting the municipalities of Arboledas and Cucutillas was opened for public use. The bridge was ordered in London by the departmental government and is of iron set in cement foundations.

LATEST CENSUS.—The latest census taken in the department of Cauca shows a total of 226,927, of whom 110,645 are men and 116,282 women.

PHILOLOGICAL CONGRESS MODERN LANGUAGES.—The government has been invited to attend the Philological Congress of Modern Languages to be held in Germany.

PENAL COLONIES.—Colonies of condemned criminals are being used to build and repair the roads and in agricultural work. These colonies have a director, manager, doctor, and guards. One of the important highways upon which the convicts are working is the Arrancaplumas-Carocoli Road which will unite the Upper and Lower Magdalena River sections and facilitate the transportation of merchandise. Some months ago 30,000 pesos were appropriated for this highway.

CONGRESS AND THE MINISTRY OF FOREIGN RELATIONS.—Congress has approved the law authorizing the Government to increase the salaries and allowances of diplomatic and consular agents fixed by law 36 of 1919. It is also decreed that the confidential agent of Colombia in Panama, for the present, fulfill the duties of notary public.

SANATORIUM DE LA CUMBRE.—The Sanatorio de la Cumbre, owned and managed by Drs. Smith and Galloway, near Cali on the Railroad of the Pacific, has received new improvements, among which is a powerful electric plant for general use and a complete radio station. This hospital is very popular and giving satisfactory results.

COSTA RICA.

CENTRAL AMERICAN CONGRESS.—On December 4, 1920, the Congress of Central American Plenipotentiaries, with representatives from Costa Rica, Guatemala, Honduras, Nicaragua, and Salvador, met in San Jose, Costa Rica, for the purpose of discussing the bases of a union of the Central American States.

PLAYGROUND AND TEMPLE OF MUSIC.—A playground, equipped after the manner of the most up-to-date playgrounds of the United States, was recently established in Heredia, near the capital of the Republic. A temple of music has also just been completed in Morazan Park in the city of Heredia.

PROPOSED MEDICAL CONGRESS.—Preliminary steps have been taken by Dr. Justo Pastor Lopez of San Jose to hold a Central American Medical Congress in the national capital during the celebration of the centenary of independence.

BOARD OF TRADE.—The Board of Trade of Costa Rica in San Jose now publishes a daily paper, entitled "Diario del Comercio," edited by Gerardo Castro Saborio.

CUBA.

POSTAL MONEY-ORDER EXCHANGE WITH THE UNITED STATES.—The President of the Republic has issued the following decree regard-

ing postal money-orders service with the United States: (1) The sum of \$300 is the maximum sum which can be sent by any one remitter in any one day to the United States or its possessions. (2) The sum of \$500 is fixed as the maximum sum which may be sent in any one day to any one remittee in the United States or its possessions. (3) To change the present rates on money orders to the United States and its possessions in the following manner: Money orders \$2.50 or less, 3 cents; from \$2.50 to \$5, 6 cents; from \$5 to \$10, 12 cents; from \$10 to \$20, 23 cents; from \$20 to \$30, 35 cents; from \$30 to \$40, 46 cents; from \$40 to \$50, 58 cents; from \$50 to \$60, 69 cents; from \$60 to \$75, 83 cents; and from \$75 to \$100, \$1.15.

PAYMENT TO THE LEAGUE OF NATIONS.—The Government of Cuba has ordered the payment of \$12,109 to the general secretariat of the League of Nations as the country's quota of its support in accordance with the budget of the League of Nations for expenses to December 31, 1920.

PRIZES OF THE ACADEMY OF MEDICAL SCIENCES.—The Academy of Medical Sciences of Cuba will give the following prizes during 1921: President Guetiérrez prize (\$400) for the best paper on "The Need of a National Pharmacœpia;" Gordon prize (gold medal); and the Cañongo prize (\$200). The papers submitted in the contest will be received in the offices of the academy until March 31, and must be originals, unpublished, and written in Spanish, English, or French.

DELEGATE FROM CUBA TO THE INTERNATIONAL INSTITUTE OF AGRICULTURE.—Dr. Francisco F. Falco has been appointed by the Government as Cuban delegate to the International Institute of Agriculture in Rome, Italy.

TELEPHONE SERVICE BETWEEN CUBA AND THE UNITED STATES.—The Government of the United States has given permission to the Cuban American Telegraph & Telephone Co. to lay three telephone cables between Cuba and the United States. One of the cables will carry messages from Habana to New York; another will connect with the Jacksonville station for service to the central and south eastern part of the United States, while the third will connect with the station at Key West for the service with the southern part of the Atlantic coast.

DEVELOPMENT OF CUBAN SCHOOL CHILDREN.—Dr. Geroges Rouma has published a book, "El Desarrollo Físico del Escolar Cubano," which includes a study of the school measurements of the Cuban school child applied so as to gauge the probable mental capacity of the student in relation to his physical development.

PERSONS ENTERING THE REPUBLIC.—Through the port of Habana during the month of November, 1920, 13,964 persons, with 23,963

pieces of baggage, entered the Republic, paying to the Government in entry taxes \$4,957.

JUDICIAL STATISTICS.—During 1920 the *audiencia* of the Province of Santiago de Cuba handed down 450 criminal sentences; 249 commuted sentences and 133 civil sentences, or a total of 832 sentences. There were also 810 decisions in criminal matters and 112 in civil matters, or a total of 922 decisions.

NEW TELEGRAPH LINE.—The All American Cables (Inc.) has been authorized by the Cuban Government to lay a cable from any point between Habana and Cojímar to a point in Mexico or along the Caribbean coast in Central America. This line will later be connected with Panama and South America. The same company has obtained permission to lay another cable between Santiago de Cuba and Guantánamo.

BUILDING FOR THE INTERNATIONAL OFFICE OF TRADE-MARKS.—The Government has given ground facing the presidential palace for the site of a building for the office of international trade-marks. The building is to cost \$1,000,000 and to be finished in five years.

CONSULAR CHANGES.—The Government has made the following changes in the location of its consuls: Senor Augusto Merchant y Corts, first consul in London, is advanced to the grade of consul general of Quito, Ecuador; Senor José Ramos y Aguirre, second consul in Cleveland, to the grade of first consul in Athens, etc.

DOMINICAN REPUBLIC.

CHANGES IN THE DEPARTMENT OF HACIENDA.—The office of general accountant of the hacienda has been abolished and instead the offices of treasurer and auditor of the Dominican Republic have been created, which divide the duties of the former general accountant of the hacienda. The decree which provides for this change also places under the department of hacienda matters relating to the sea and river zones.

CORPS OF NIGHT POLICE.—The city government of Puerto Plata has formed a police force, under the immediate direction of the municipal commissioner consisting of 20 men, to be known as the corps of night police, who will be on duty from 8 p. m. to 5 a. m.

CONSULAR APPOINTMENT.—M. Eduard Petit has been appointed Dominican consul at Fort de France, Martinique, to replace M. L. Meyer.

BRIDGES.—The Government has paid the sum of 59,201 pesos for the construction of three bridges on the Moca high road. One of the bridges is across the Camí River and cost 26,301 pesos; the other across the Rio Verde, which cost 14,206 pesos; and the third across the Rio Licey, at a cost of 18,694 pesos.

ECUADOR.

CENTENARY.—On November 18 last the city of Loja celebrated the first centenary of its independence.

COMPULSORY MILITARY SERVICE.—The President of the Republic has issued a decree putting in effect, on May 24, 1921, the law providing for compulsory military service.

IMPORTANT BOOKS.—A decree has been issued authorizing the Ecuadorean Government to print 4,000 copies each of the following works: Index of an Essay on the Compilation of Ecuadorean Laws, by Dr. Adolfo B. Serrano, and a Key to Ecuadorean Laws, by Manuel A. Yepez.

GUATEMALA.

PREVENTION OF GAMBLING.—In order to discourage and prevent gambling in the Republic the Executive power has prohibited the importation of gambling devices and articles used in games of chance.

ELECTRIC LIGHT AND POWER.—The municipality of Cuyotenango has contracted for the installation of an electric light and power plant.

ANNUAL FAIR.—The municipality of Jilotepeque, Department of Jalapa, has been authorized by the National Government to hold fairs on the 14th, 15th, and 16th of December of each year.

CONCESSIONS SOLICITED.—The following persons and companies have petitioned the Government of Guatemala for permission to establish new industries in the Republic: Jesus Castro Lezano, for the manufacture of machines for the generation of acetylene gas; Carl Tuttle, for the establishment of a model farm for the raising of cattle and hogs for breeding and food purposes, as well as for the installation of a packing plant; the Central American Agricultural Co., for the manufacture of paper, paper bags, twine, etc.; and Daniel Saymoya C., for the installation and operation of a bathing resort at Lake Amatitlan.

HAITI.

PERUVIAN VICE CONSUL IN JACMEL.—The Haitian Government has recognized Señor F. Lemoine as Peruvian vice consul in Jacmel.

NEW COUNCILOR OF STATE.—M. James Thomas has been appointed councilor of state to fill the vacancy caused by the resignation of M. Denis St. Aude.

THE HAITIAN PATRIOTIC UNION.—The Haitian Patriotic Union has lately been founded in Port au Prince to develop national interests. The following executive committee was elected: H. Georges Sylvain, delegate administrator; M. P. Thoby, general secretary; M. Morpeau, treasurer; and M. C. Rosemond, recorder.

AMERICAN-HAITIAN RED CROSS.—Several prominent American and Haitian ladies have decided to found an American-Haitian Red Cross Association to care for the poor.

RECEPTION OF THE GERMAN MINISTER PLENIPOTENTIARY.—In November the President of the Republic received in audience Herr M. Zeitelmann, envoy extraordinary and minister plenipotentiary from Germany to Haiti.

MEXICO.

DISCOVERY OF AN ARCHÆOLOGICAL MONUMENT.—About 10 kilometers from the town of Papantla, Vera Cruz, an Aztec monument has been discovered which contains seven floors. As it contains the characteristic "stone of sacrifices" (sacrificial altar) it is believed that the ruins were once a temple.

RADIUM WARD IN THE GENERAL HOSPITAL.—A new ward has lately been opened in the general hospital for radium treatment and is provided with 20,000 pesos worth of this precious metal.

UNIVERSAL GRAND FAIR IN MILAN.—The Mexican Government has accepted the official invitation to participate in the Universal Grand Fair to take place in Milan in the coming month of April. The department of industry, commerce, and labor has invited Mexican manufacturers and producers to prepare an extensive line of samples of Mexican products and raw materials to be sent to the grand fair in Italy.

ELECTRIC PLANT.—The Federal President has conceded the sum of 20,000 pesos to the government of the State of Guerrero for the purpose of building an electric plant in the city of Chilpancingo.

TELEPHONE SERVICE.—The Government has made a contract with a Mexican company to establish and operate a telephone service between the towns of El Oro and Hidalgo and other points in the States of Mexico and Michoacan, and between the cities of Toluca, State of Mexico, and Mexico, D. F.

AUTOMOBILE ROAD.—An automobile road has been opened by the city government of Guadalajara from the city to Colonia Seatele.

POSTAGE ON PERIODICAL PUBLICATIONS.—Article 219 of the Postal Code now in effect in Mexico has been changed as follows: Second-class mail in the form of periodical publications mailed by publishers is divided into two groups—first, informative and political publications of present interest, and second, publications which are not of this character, papers carrying serial stories or matter which is not of such pressing interest and does not need such quick delivery. Publications of the first group require 3 centavos postage for each 500 grams or a fraction thereof, and the second group 6 centavos for each 500 grams or fraction thereof. Prospectuses and first numbers of publications of both groups will be circulated free.

NICARAGUA.

NEW MAP OF NICARAGUA.—The department of fomento has commissioned Engineer Alfonso Iglesias to prepare a map of the Republic

in accordance with data furnished by the governors of the departments. The boundary lines between Nicaragua and the neighboring Republics of Honduras and Costa Rica are to be in accordance with the latest agreements made with these countries. The map will show the completed highways of the Republic and those which are to be constructed.

FRANKING PRIVILEGE TO NEWSPAPERS.—A recent Executive decree grants the franking privilege to Nicaraguan newspapers mailed to any of the Central American States.

COMMEMORATIVE STAMPS.—An issue of stamps commemorative of the centenary of the political independence of Nicaragua on September 15, 1821, bearing engravings of busts of some of the patriots who took part in the movement for independence, has been ordered by the Government. An issue of 100,000 stamps of the denomination of 50 centavos, having a bust of Ruben Darío, the national poet, will also be made.

REPORT OF DEPARTMENT OF PUBLIC WORKS.—The department of fomento and public works has ordered printed 350 copies of the report of that department for 1920.

MILITARY HOSPITAL.—The war department proposes to establish a military hospital at Campo de Marte. Dr. B. F. Norwood has been appointed military physician, with the rank of colonel, at the fort in Campo de Marte.

INAUGURATION OF PRESIDENT CHAMORRO.—Señor Diego Manuel Chamorro, who was elected President of the Republic on October 3, 1920, was officially inducted into office on January 1, 1921. The following are the members of his cabinet: Señor Máximo H. Zepeda, minister of foreign relations; Dr. Venancio Montalván, minister of finance; Gen. Tomás Masís, minister of public works; and Señor Humberto Pesos Díaz, minister of interior.

PRESIDENT'S MESSAGE.—A message of the President of the Republic to Congress on November 20, 1920, recommended (1) the construction of a railway from San Miguelito on Lake Nicaragua to Monkey Point on the Atlantic coast; (2) the nationalization of the Pacific Railway; and (3) the consolidation of the external debt. The President accompanied his message with a central contract, three other contracts, and a financial plan. The central contract provides for the establishment of a mixed railway commission, with headquarters in Managua, to have charge of the construction of the Atlantic Railway and the operation of the Pacific Railway. Provision is made for the purchase of the Pacific Railway for a consideration of \$300,000 cash and \$1,450,000 in bonds. An issue of 15-year gold bonds, bearing 7 per cent interest annually and having a sinking fund, is provided for, the proceeds of these bonds to be used in the construction of the Atlantic Railway, the retirement of other

bonds, the conservation of the proposed Atlantic Railway, etc. These recommendations and contracts of the President require the approval of Congress.

PANAMA.

LABOR UNION.—The Federation of Pan American Laborers employed in the Canal Zone has elected President Harding honorary member of the union and Samuel Gompers honorary president of the same.

TOURISTS.—In February last two steamers, with 100 tourists each, arrived in Cristobal.

AVIATION LANDING.—An aviation station is being constructed in the vicinity of the coaling station near San Cristobal. Two dredges were used in the leveling and filling in of the land.

PARAGUAY.

FIRST NATIONAL MEDICAL CONGRESS.—A preliminary meeting was held in November, 1920, in Asuncion by Paraguayan physicians for the appointment of an organization committee to take charge of the arrangement for the First National Medical Congress. The committee elected was as follows: President, Dr. Luis E. Migone; secretary, Dr. Manuel Ubieta; and members, Drs. Carlos Silva and Pedro L. Barbosa. The congress takes place in the present month of March, and the chief topics to be brought under discussion are hookworm disease, malaria, tuberculosis, alcoholism, and other diseases.

FOURTH INTERNATIONAL SANITARY CONFERENCE.—The Paraguayan delegates to the Fourth International Conference of Montevideo were Drs. Juan Francisco Recalde and Fernando Abente Haedo.

NEW CONSULATE.—The Government has created a new Paraguayan consulate in Brunswik, Germany, appointing Señor F. W. Otto as consul.

PARAGUAYANS OF TO-DAY.—A new book has appeared in Buenos Aires, which is the work of William Parker, entitled "Paraguayans of To-day." It is one of the series which the Hispanic Society of New York has commissioned Mr. Parker to prepare.

PERU.

CONSULATE IN THE CONGO.—A Peruvian consulate in the Congo State of Africa has been created by presidential decree, and Señor Georges L. Lorrain appointed consul. The recently appointed Peruvian consul in Boston is Señor Alejandro G. Riveros.

NEW PERUVIAN MINISTER TO ECUADOR.—The ministry of foreign relations has appointed envoy extraordinary and minister plenipotentiary of Peru to Ecuador, Señor Manuel de Freyre y Santander, who was Peruvian minister to Japan.

DELEGATE TO THE INTERNATIONAL INSTITUTE OF AGRICULTURE.—The Government has appointed Señor Enrique P. Molinatti Peruvian delegate to the International Institute of Agriculture in Rome, to replace the late Señor Manuel M. Messona.

GENERAL CENSUS OF THE REPUBLIC.—The President has been authorized by congress to effect the general census of the Republic as soon as possible.

NEW THEATER.—A new theater with a capacity of 5,000 persons is being built in the city of Callao. The stage and arrangements of the theater are fitted for the production of plays requiring difficult scenic effects and a large company.

CONGRESS OF MAYORS.—A congress of mayors is being arranged for in the city of Lima. Several of the most important cities have accepted the invitation to send their chief executive to the congress which will take place on the date of the celebration of the centenary of Peru.

HOSPITAL SANTA ROSA.—A company has been formed in Lima to establish a private hospital, to be known as the Santa Rosa hospital. This institution will be located near Miraflores.

SALVADOR.

BUREAU OF PUBLIC HEALTH.—The President of the Republic has issued a decree containing rules and regulations governing the bureau of public health. The principal object of the bureau, whose officials consist of a director general, chiefs of sections, and other employees, is to transact the business connected with the public health in the manner prescribed by law and in accordance with the most approved and up-to-date methods.

SOCIETIES.—El Vicentino is the name of a society recently established in the city of San Vicente for the purpose of promoting popular culture and material and moral progress in the department of Vicentino. An athletic club has been formed in the city of Santiagueño and a casino at La Union.

STREET CLEANING.—The city of San Salvador has contracted for the cleaning of its streets. Estimates were received and the contract let to the lowest bidder.

POEMS.—The Government of Salvador has been petitioned to print for account of the State 3,000 copies of the collection of poems of Armando Rodriguez Portillo.

NEW REVIEW.—A new commercial review, entitled "La Union," was recently founded in the city of San Salvador.

PROPOSED CENTRAL AMERICAN PEDAGOGIC CONGRESS.—Preliminary steps have been taken for the holding of a Central American pedagogic congress, one of the principal objects of which will be the standardizing of the educational systems of Central America.

URUGUAY.

DELEGATES TO THE ASSEMBLY OF THE LEAGUE OF NATIONS.—The President has appointed as delegates from Uruguay to the Assembly of the League of Nations, Dr. Juan Carlos Blanco, Uruguayan minister to France, and Señor Benjamin Fernández y Medina, Uruguayan minister to Spain and Portugal.

RANK OF ASSISTANT SECRETARY OF STATE.—By presidential decree the assistant secretary of state holds the same degree of diplomatic rank as envoy extraordinary and minister plenipotentiary of the first class.

MILK LABORATORY.—The Government has created a branch of the council of departmental administration called the laboratory for the inspection and analysis of milk, with the following duties: The analysis of the milk sold to the public; the analysis of substitutes for for mothers' milk; the analysis of products obtained by the use of lactobacillus; and the analysis of the milk of wet nurses. The laboratory will establish a standard to be maintained in milk and related products sold to the public.

VITAL STATISTICS.—In the 10-months' period between January and October, 1920, the vital statistics of Montevideo were as follows: Births, 8,813; marriages, 2,913; and deaths, 6,533, the population being in October 361,186 inhabitants.

DAY OF REST.—Congress has passed a law that, at least once a week, a day of rest be allowed to all automobile or carriage drivers working on a salary, as well as to domestic servants.

DIPLOMATIC TITLE.—In accordance with the law of October 15, 1918, reorganizing the qualifications for a diplomatic career, the ministry of public instruction has issued a decree regulating the granting of the degree of doctor of diplomacy. The decree states that aspirants to the title shall have completed the same studies as the law students in the school of law and social sciences with the exceptions of civil law, which subject they shall take with the students in the notary's course. Students may enter the law school to study the subjects for diplomacy under the following conditions: 1. Those who have obtained satisfactory marks in all the subjects of the secondary course of education and in the preparatory studies for the advocate's course. 2. The bachelors of science and letters. 3. The present secretaries and officials of legations. 4. The present employees of the ministry of foreign relations qualified as notaries. The title of doctor of diplomacy will be given by the faculty with the same formalities as the degree of doctor of law and social sciences. The doctors of law and social sciences who desire to obtain the degree of doctor of diplomacy must take the subjects of diplomatic law, history of treaties, and practices of the office of chancellor.

FLOWER SHOW.—The Jeanne D'Arc Society organized a flower show in Montevideo, for which the Government contributed a sum of money to help defray the expenses.

VENEZUELA.

PUBLIC OFFICIAL DECORATED.—The National Government has awarded to Dr. José Antonio Linares, in charge of the ministry of public instruction, the decoration of the bust of the liberator, of the second class of the order.

DEATH OF VENEZUELAN MINISTER IN BRAZIL.—On December 1, 1920, Dr. Emilio Constantino Guerrero, envoy extraordinary and minister plenipotentiary of Venezuela to Brazil, died in Rio de Janeiro. Dr. Guerrero had been, previous to his diplomatic appointment July 1, 1914, President of the federal court and the court of casation and Acting President of the Republic. He was also a member of the Venezuelan Academy of the Language; member of the Venezuelan delegation of the Iberian American Institute of Comparative Law; honorary member of the Academies of Jurisprudence and of History of the Republic of Colombia, and of the Mexican Academies of Geography and Statistics and of Astronomy; honorary member of the Sociedad Juridico Literaria of Quito; and corresponding member of the Argentine Institute. He was president of the revisory committee on civil law, representative in the national congress, and vice president of the College of Lawyers of the Federal District. In addition to his work as a statesman and diplomat he was a writer, having published works of history, a novel, poems, and a philological dictionary.

NEW AQUEDUCT.—The construction of a new aqueduct has been ordered in Barquisimeto, capital of the State of Lara. The new system will furnish 25 liters of water per second and will bring the water from the same watershed of Titicare as the old system.

DECREE CONCERNING SEALED PAPER.—By a recent presidential decree the edition of 292,000 sheets of sealed paper was approved for the collection of the tax on sealed paper. The paper was furnished by the American Bank Note Co. in accordance with the specifications. Each leaf bears the impression of a seal with the coat of arms and inscription, contains 64 lines, and at the bottom bears the number of the sheet. The seals, numbering, and lines are of different colors in accordance with each of the five classes of seals of this edition.

GOLD MEDAL.—In the Exposition del Libro (Book Exposition) held in Buenos Aires during the celebration of the centenary of the Congress of Tucumán, the National Library of Venezuela was awarded the gold medal and diploma for its contribution to the exposition.

SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED TO JANUARY 28, 1921.

Subject.	Date.	Author.
ARGENTINA.		
Area sown in wheat, linseed, and oats, 1920-21 crop year.....	1920. Oct. 26	W. Henry Robertson, consul general at Buenos Aires.
Incorporation and corporation taxes in Argentina.....	Nov. 20	Do.
Official estimates of live stock in Argentina.....	Nov. 30	Do.
Construction of railway from Bahía Blanca to Patagónés.....	...do....	Do.
BOLIVIA.		
Commission of social reform established.....	Oct. 22	W. Duval Brown, consul at La Paz.
Electric current and central power stations.....	Nov. 11	Do.
BRAZIL.		
Brazilian sugar crop, 1920-21.....	Nov. 4	G. T. Colman, vice consul at Rio de Janeiro.
Budget for Rio de Janeiro for the year 1921.....	Nov. 5	Do.
Annual report of commerce and industries for 1919.....	Nov. 10	A. T. Haeberle, consul in charge at Rio de Janeiro.
Market for scientific apparatus and laboratory supplies.....	Nov. 14	Ezra M. Lawton, consul at Sao Paulo.
Razing of "Morro do Castello" (hill in the center of business section of Rio).	Nov. 18	A. T. Haeberle.
Railways operating in Brazil.....	Nov. 19	Do.
Market for scientific apparatus and laboratory supplies.....	...do....	Samuel T. Lee, consul at Porto Alegre.
Construction of quays in Rio de Janeiro.....	Nov. 20	A. T. Haeberle.
Market for American scientific books.....	...do....	Do.
Importation of automobiles into Brazil from January, 1907, to June 30, 1920.	...do....	Do.
Necessity of allowing credits of from 90 to 120 days to importers of Brazil.	Dec. 3	Do.
Electrification of the "Estrada de Ferro Central do Brazil".....	Dec. 4	Do.
Rubber exports during November, 1920.....	Dec. 6	George H. Pickerell, consul at Para.
Fire insurance carried by merchants.....	Dec. 14	Samuel T. Lee.
CHILE.		
New consulate established at Arica.....	Nov. 1	Homer Brett, consul at Arica.
Market for typewriters in Concepcion.....	Nov. 12	Dayle C. McDonough, consul at Concepcion.
Reissuing of patent certificates by Chilean patent office.....	Nov. 24	Carl F. Deichman, consul general at Valparaiso.
Settlement of strike and increase of rates on the Arica-La Paz Railway.	Dec. 8	Homer Brett.
Beginning of work upon the sugar plantation at Tacna.....	Dec. 14	Do.
Data regarding the use of the international metric system in foreign countries.	Dec. 24	Carl F. Deichman.
COLOMBIA.		
Cattle raising in Colombia.....	Dec. 20	E. C. Soule, consul at Cartagena.
CUBA.		
Laws of Cuba with respect to personal property.....	Nov. 22	Carlton Bailey Hurst, consul general at Habana.
Foreign commerce of Cuba during fiscal year, 1918-19.....	Dec. 8	Do.
Norwegian granite paving blocks for Santa Clara.....	Dec. 24	Frank Bohr, consul at Cienfuegos.
Port tonnage of Cienfuegos.....	Dec. 31	Do.
Highway transportation.....	1921 Jan. 12	Do.
DOMINICAN REPUBLIC.		
Local waterworks, municipal purchase of.....	1920 Dec. 2	W. A. Bickers, consul at Puerto Plata.
Municipal improvements.....	...do....	Do.
Customs receipts for Puerto Plata.....	Dec. 3	Do.
Economic conditions.....	Dec. 4	Do.
Record year (1920) for Dominican foreign trade.....	Dec. 6	Geo. A. Makinson, vice consul at Santa Domingo.

Reports received to January 28, 1921—Continued.

Subject.	Date.	Author.
DOMINICAN REPUBLIC—continued.		
Market for American typewriters in the Republic.....	Dec. 14	Do.
Fire insurance carried by merchants in the Republic.....	Dec. 18	Do.
Review of present economic, commercial, and financial situation in the Republic.....	Dec. 20	Do.
ECUADOR.		
Report on the commerce and industries for 1919.....	Nov. 9	Frederic W. Goding, consul general at Guayaquil.
Market for scientific apparatus and laboratory supplies.....	Nov. 19	Do.
Financial situation in Ecuador.....	Nov. 20	Do.
GUATEMALA.		
Fire insurance carried by merchants in Guatemala.....	Dec. 15	Herndon W. Goforth, vice consul at Guatemala City.
MEXICO.		
Petroleum development at Puerto Angel.....	Dec. 6	Lloyd Burlington, consul at Salina Cruz.
Advertising in Chihuahua.....	Dec. 20	J. B. Stewart, consul at Chihuahua.
Condition of cotton crop in Lower California.....	1921 Jan. 10	Walter F. Boyle, consul at Mexicali.
NICARAGUA.		
Dissemination of trade information.....	Dec. 1	Henry S. Waterman, consul at Corinto.
Development of the sugar industry.....	Dec. 2	Do.
PANAMA.		
Steamship line building in Colon.....	Dec. 7	Julius D. Dreher, consul at Colon.
The third bonded warehouse in Colon.....	Dec. 8	Do.
Abrasive sand discovered near Colon.....	Dec. 9	Do.
New building for cable company in Cristobal.....	Dec. 13	Do.
PARAGUAY.		
Immigration into Paraguay.....	Oct. 11	George E. Seltzer, vice consul at Asuncion.
Condition of Government colonies in Paraguay.....	Oct. 20	Do.
Cattle fair in Paraguay.....	Oct. 25	Do.
Report on commerce and industries for September.....	Oct. 26	Do.
Agricultural notes.....	Nov. 10	Do.
American company in Paraguay to extend its activities.....	Dec. 1	Do.
Establishment of private clinic for sick.....	Dec. 4	Do.
Financial notes.....	Dec. 10	Do.
PERU.		
Statistical information of the foreign trade of Peru for 1919.....	Nov. 22	James H. Roth, vice consul at Callao-Lima.
Bill providing for the taxing of a general census of Republic during the present fiscal year.....	Dec. 2	Do.
Hunting of wild animals prohibited in Peru.....	Dec. 22	Do.
Regulations regarding the registration of all vicuna skins.....	do.	Do.
SALVADOR.		
Telephone directory.....	Nov. 17	Lynn W. Franklin, vice consul at San Salvador.
Electric light company authorized.....	Dec. 7	Do.
URUGUAY.		
Opportunities for settlers in Uruguay.....	Oct. 29	David J. D. Myers, consul at Montevideo.
The market for trailers.....	Nov. 24	Do.
Annual motor vehicle registration fees.....	Dec. 17	Do.
VENEZUELA.		
Fire insurance carried by merchants in district.....	Nov. 30	Dudley G. Dwyre, consul at Maracaibo.
Coffee shipments from Maracaibo, November, 1920.....	Dec. 3	Do.
Steamship passenger service.....	Dec. 11	Do.
Market for scientific apparatus and laboratory supplies.....	Dec. 19	William P. Garrety, consul at Puerto Cabello.
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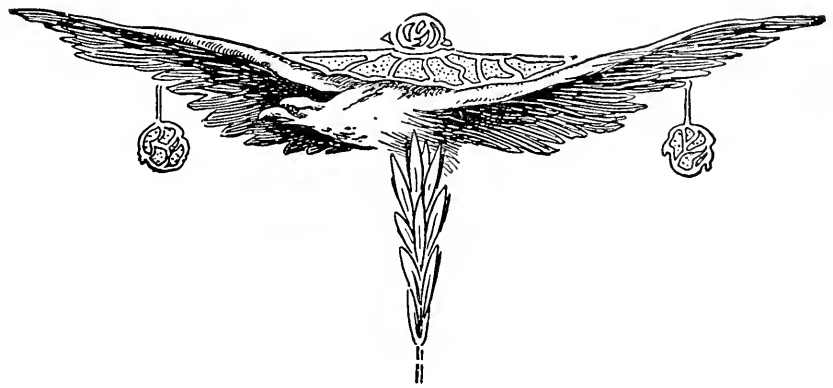
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TABLE OF CONTENTS

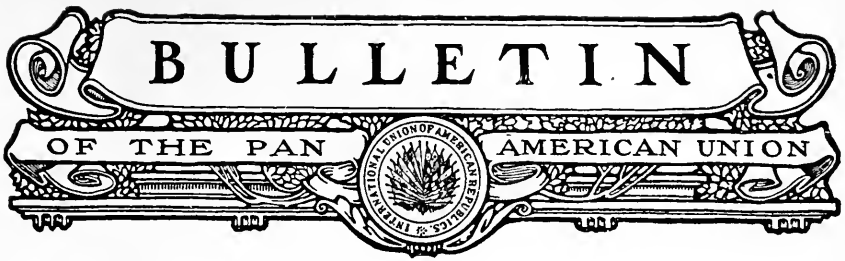
	Page.
Lumber Markets and Timber Resources of Mexico.....	325
Corn, Wheat, Sugar, Rice, and Cotton in South America.....	339
Sanitary Propaganda in Brazil.....	364
Latin-American Students in the United States; The Nation's Guests.....	367
Installation of Secretary Hughes as Chairman of the Governing Board of the Pan American Union.....	372
Death of Dr. Alberto Membreño.....	374
Agriculture, Industry and Commerce.....	376
Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Honduras, Mexico, Panama, Paraguay, Peru, Salvador, Uruguay, Venezuela.	
Economic and Financial Affairs.....	389
Argentina, Chile, Colombia, Cuba, Dominican Republic, Ecuador, Panama, Paraguay, Peru, Salvador, Uruguay.	
International Treaties.....	398
Honduras-Nicaragua, Venezuela-Argentina.	
Legislation.....	399
Brazil, Chile, Colombia, Dominican Republic, Ecuador, Paraguay, Uruguay.	
Public Instruction and Education.....	405
Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Mexico, Peru, Salvador, Uruguay, Venezuela.	
General Notes.....	412
Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Mexico, Panama, Paraguay, Peru, Salvador, Uruguay, Venezuela.	
Subject Matter of Consular Reports.....	426
Book Notes.....	428





THE GREAT TREE NEAR OAXACA, MEXICO.

This is the largest of the gigantic trees in the vicinity of Oaxaca, being 124 feet in circumference.



VOL. LII.

APRIL, 1921.

No. 4

LUMBER MARKETS AND TIMBER RESOURCES OF MEXICO¹

IN the neighboring Republic of Mexico the United States finds one of its best foreign markets for lumber. While Mexico possesses extensive areas of timberland, many of the wooded regions are beyond transportation facilities, and as a consequence the sections served by railway or steamship lines usually import a large share of their lumber requirements from the United States. The shipments of American lumber to Mexico are made up chiefly of softwood. On the other hand, quantities of mahogany and other hardwoods come to the United States from Mexico.

Statistics for 1920 show that the exports of American lumber to Mexico last year far exceeded in value all previous records. Figures are not complete for this entire trade, but on three items alone—yellow pine boards, fir boards, and railroad ties—the shipments in 1920 amounted to \$4,927,373, which was 3 per cent more than the total value of all the lumber exports from the United States to Mexico in 1919. Imports of Mexican mahogany into this country last year reached a total of 6,350,000 feet, valued at \$699,859, which represented a quantity increase over the imports of the same items in 1919, but a decrease from the quantity imported in the war year 1918.

The war's effect on prices and quantities appears in the following statistics of the exports of lumber from the United States to Mexico

¹ From Commerce Reports, Mar. 3, 1921.

in the fiscal year ending June 30, 1913, and in the calendar years 1918 and 1919:

Items.	Fiscal year, 1913.		Calendar year, 1918.		Calendar year, 1919.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Logs and round timber:						
Fir.....1,000 feet.....			1,893	\$27,526	717	\$13,661
Pine, yellow.....do.....			3,231	103,536	751	25,912
Hardwood.....do.....		83,729	12	182	17	702
Softwood, not specified, 1,000 feet.....	15,630	196,103	1,275	22,247	3,461	66,164
Firewood, etc.....		8,633		9,076		22,762
Timber:						
Hewn—						
Hardwood.....1,000 feet.....			27	980	43	1,054
Softwood.....do.....	1	15	2,251	30,147	2,254	38,443
Sawed—						
Pitch pine.....do.....	8,321	134,200	206	8,132	347	15,287
Hardwood.....do.....			195	15,664	56	2,153
Other.....do.....	6,367	114,704	17,404	424,035	9,171	238,725
Lumber:						
Boards, planks, etc.—						
Cypress.....do.....	155	7,324	614	36,346	586	40,070
Fir.....do.....	14,058	177,898	6,880	229,164	7,879	263,740
Gum.....do.....	58	1,720	135	6,303	270	13,597
Oak.....do.....	443	20,173	908	49,331	1,223	83,421
Pine—						
White.....do.....	17,277	252,647	1,629	63,302	2,276	111,577
Yellow—						
Long leaf, 1,000 feet.....	18,995	383,789	30,298	914,721	34,896	1,204,836
Short leaf, 1,000 feet.....	29,010	516,064	7,740	248,810	10,600	432,085
Other, 1,000 feet.....	26,845	544,726	19,403	492,686	18,027	636,379
Poplar.....1,000 feet.....	269	12,959	49	4,279	140	12,932
Redwood.....do.....	1,504	33,161	2,048	69,770	2,406	114,703
Spruce.....do.....	19	413	2	64	6	255
Hardwood.....do.....			99	9,237	391	33,177
Other.....do.....	3,772	78,827	386	15,560	219	9,252
Shingles.....do.....M.....	4,684	13,805	6,014	28,993	9,882	54,076
All other lumber.....		264,087		170,628		176,883
Doors, sash, etc.....		11,667		46,793		61,237
Box shooks.....		521,967		366,201		529,860
Cooperage.....number.....			4,235	8,593	33,917	62,745
Shooks, n. e. s.....do.....	98,988	33,928	5,641	1,309	24,125	3,668
Staves.....do.....	117,089	5,600	1,853,338	59,625	1,718,979	86,740
Heading.....		100		42,088		31,160
House moldings, etc.....		31,751		20,801		24,390
Railroad ties.....number.....	685,594	399,600	317,332	249,451	476,970	371,490
Total.....		3,769,590		3,766,482		4,783,149

These figures show that the higher values of lumber exports in recent years do not necessarily indicate larger quantities. In 1919 the exports of logs and round timber to Mexico were less than a third of those in the pre-war year 1913. Boards and planks were 37 per cent less in quantity in 1918 and 29 per cent less in 1919 than in the 1913 fiscal period, though the item of yellow-pine boards steadily increased in quantity as well as value. The total value of the lumber exports in 1918 was strikingly similar to the value of the 1913 exports, notwithstanding the differences in quantities. The increase in value in 1919 was 27 per cent over the 1913 record, and available statistics for 1920 indicate a probable growth of 100 per cent over prewar values.



FOREST IN MEXICO.

Yellow pine in boards and planks is the most important item of lumber sent from the United States to Mexico. At the head of the list of lumber exports for 1920 is the total of 73,865,000 feet of long-leaf yellow-pine boards, valued at \$3,955,650, which represents a quantity increase of more than 100 per cent over the 1919 figure and about 300 per cent over the 1913 record. This item has apparently grown at the expense of other kinds of pine lumber. Fir boards shipped to Mexico in 1920 reached a total of 8,101,000 feet, valued at \$436,388, which was a gain over the figures for 1918 and those for 1919, but showed a decrease from the quantity figures for 1913.

Exports of cypress, gum, oak, and redwood boards have increased appreciably since 1913, and similar growth may be noted in the shipments of staves and shingles. Among the items that have fallen off since the prewar year are logs and railroad ties, due to the unsettled conditions in Mexico that hindered the manufacture of logs into lumber and delayed the construction of railroads. However, the exports of ties in the calendar year 1920 amounted to 516,754, valued at \$535,335, showing a steady trend toward prewar quantities. Practically all the lumber imported by Mexico comes from the United States, and this was true even before the war, though Canada and Great Britain then contributed small amounts. Mexico's own production of lumber, as previously indicated, is largely in hardwoods, but some sections with large areas of pine and fir furnish a part of the country's requirements in softwoods.

The following statistics of the exports of Mexican lumber in the prewar year 1912-13 show the United States as the largest single importer (1 peso at par=\$0.498; 1 cubic meter=424 board feet of lumber; 1 kilo=2.2 pounds):

Items and destinations.	Quantity.	Pesos.	Items and destinations.	Quantity.	Pesos.
Cedar and common wood:	<i>Cubic meters.</i>		Fustic wood:	<i>Kilos.</i>	
Germany.....	307,779	14,351	United States.....	883,750	26,961
Cuba.....	137,334	10,374	France.....	2,184,279	64,693
United States.....	261,188	1,217,361	All other countries.....	670,689	20,905
All other countries....	1,321	29,504	Total.....	3,738,718	112,559
Total.....	707,522	1,271,890	Dyewoods:		
Mahogany, ebony, etc.:			Germany.....	2,000,210	57,948
United States.....	63,378	1,486,107	United States.....	1,254,392	24,640
British Honduras.....	45,697	277,950	Great Britain.....	6,678,315	169,514
All other countries....	12,686	329,214	Russia.....	3,048,358	98,120
Total.....	121,761	2,093,271	All other countries.....	940,266	32,477
			Total.....	13,921,541	382,699

The greater value of the exports of cedar and common wood to the United States in comparison with those to Germany, Cuba, and other countries would seem to indicate that the greater part of these exports to the United States were made up of the more valuable woods, those to the other countries being chiefly the cheaper or more



THE SPANISH CEDAR (CEDRELA) IN FULL MATURITY.

Such a tree as this is a treasure to the lumberman. It shows a smooth and regular growth, and the amount of timber which it will furnish can be roughly estimated even before the tree is cut. In all probability 9,000 feet board measure can be produced from a tree of the dimensions of the above specimen—7 feet 8 inches in diameter at 5 feet above the ground.

common varieties. The United States appears first in the receipts of mahogany. Great Britain took half of the dyewoods, Russia having been second in this item and Germany third. France took the largest amount of fustic. The total value of the exports of Mexican lumber in 1912-13 was approximately \$2,000,000 in American money—a sum not reached by the combined exports of the calendar years 1918 and 1919.

The latest statistics of Mexico's exports of lumber to the United States indicate the falling off in this trade. Reports of American consuls in Mexico show the following shipments in the calendar years 1918 and 1919, the values being expressed in United States currency:

Items.	1918		1919	
	Quantity.	Value.	Quantity.	Value.
Cabinet woods, in logs:				
Cedar.....board feet.....	333,520	\$9,121	191,000	\$16,575
Lignum-vitæ.....		19,116		801
Mahogany.....board feet.....	6,300,250	532,608	6,195,680	652,965
Mesquite.....M feet.....	17	4,825	2	800
Walnut.....tons.....	100	4,003		
Fence posts.....pounds.....			6,600	660
Firewood.....		5,644		36,551
Doors.....			117	1,102
Lumber:				
Mahogany.....board feet.....	145,324	29,473	268,645	25,530
Boards, etc.....		210,800		216,278
Total.....		\$15,590		\$51,262

The predominance of mahogany in Mexico's lumber exports appears in the above table.

According to a Mexican official bulletin, about 200 varieties of woods are native in Mexico, there being some 20 species of hardwoods besides mahogany and cedar. Most of the hardwoods are found in the southern States bordering on the Gulf of Mexico. Pine, fir, and oak are found in largest quantities in the States through which the western mountain ranges pass. Six species of red and white oak appear in these sections.

Among the valuable hardwoods of Mexico may be named the zapote mamey, which resembles walnut; the zapote chico, yielding the chicle that forms the basis of chewing gum. This tree also furnishes a very enduring wood, used with particular satisfaction for furniture and for driven pile work. The zapotillo colorado and the zapotillo blanco are fine, light-colored woods, desirable for inside house finishings. Palo maria resembles mahogany; Mexican red cedar is much used for lead pencils and cigar boxes; granadillo is a variety of rosewood; macaya, similar to hickory, is used locally for wagon work; jicoco is a cork wood. The character of the timber found in various sections of Mexico and the effect of the local supply



THE MAHOGANY TREE IN THE FOREST.

It is a giant among tropic growths. The usual tree of mature age is 4 to 5 feet in diameter, and stands a solid shaft for 50 feet before the first branches are given off. The bark resembles the black oak of the North, and the foliage is like that of the wild cherry. The most valuable wood of the trunk is found just below the first branching.

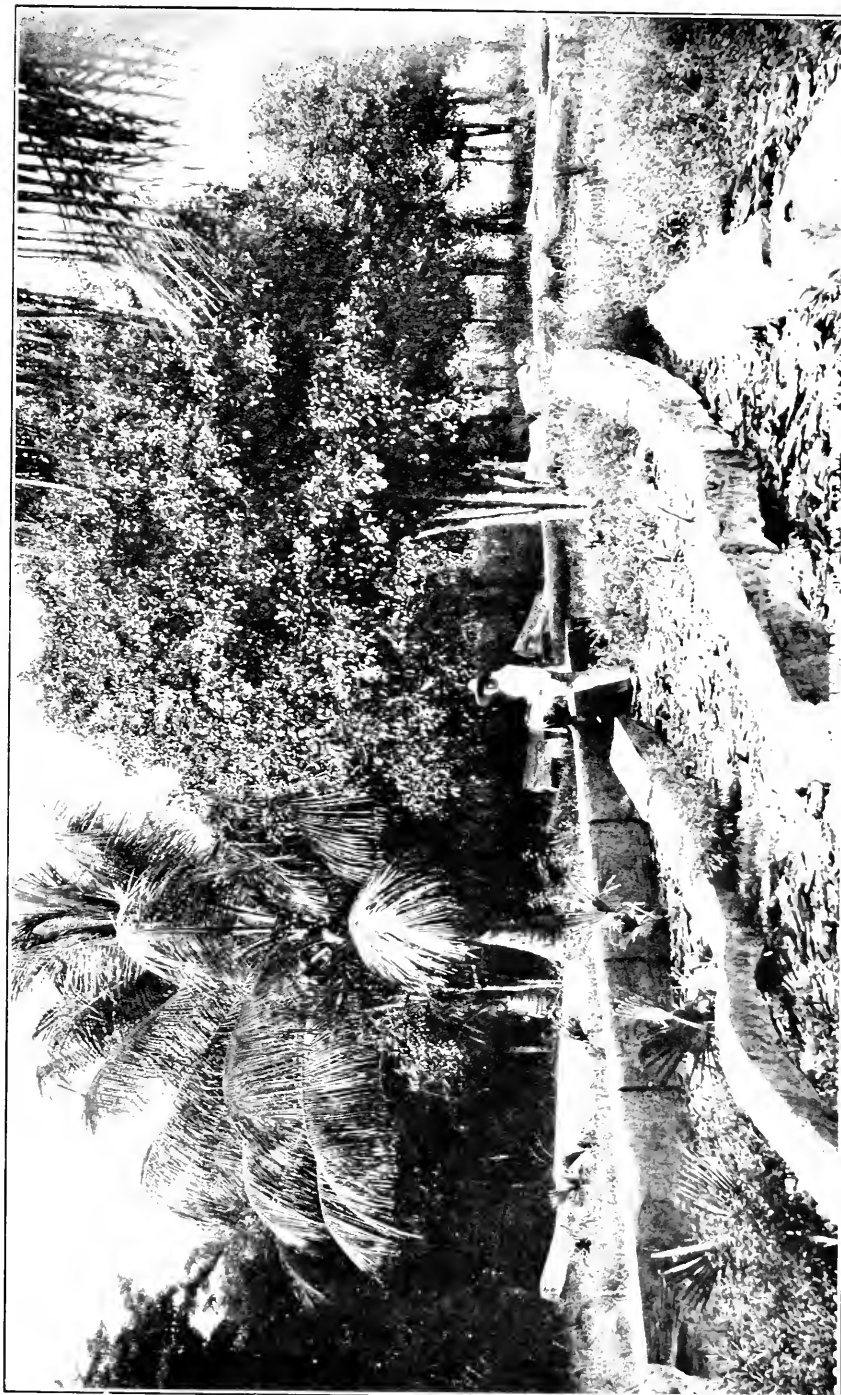
on the market for American lumber are brought out in certain reports of American consuls from which abstracts are given below.

Both soft and hard woods are native in the Acapulco consular district, in the State of Guerrero. The country is mountainous, with large forests of mahogany, rosewood, red and white oak, pitch pine in at least two varieties, and a pine that resembles the white pine of the North. Heretofore the lack of transportation facilities has hindered the development of the lumbering industry, but there are possibilities of large production and exportation of lumber in this State. At present only sufficient lumber is cut to meet a part of the local demand, according to reports of Consul John A. Gamon. At the port of Acapulco it is cheaper to import soft lumber than to use the domestic product. The lumber entering this port is chiefly pine and redwood from the Pacific coast of the United States.

The mining companies in Chihuahua import several carloads of Texas long-leaf pine every month, but they use still larger quantities of Mexican lumber. Consul J. B. Stewart judges the proportion is about 5 to 1 in favor of the local product. Southern pitch pine is used for general mining purposes, and imported oak and hickory, generally from Arkansas, are employed for wagons, buggies, and freight-car repairs. There has never been a large demand for hardwoods, as there are practically no frame houses, and in the common adobe houses ordinary pine is used for doors, sashes, floors, etc. There is a plentiful supply of domestic pine, which though not so good as the Texas long leaf is much cheaper. There has been complaint of the high prices of imported lumber, and this has led to more extensive use of the domestic article.

At Ciudad Juarez, in the State of Chihuahua, there is only a small market for lumber, says Consul E. A. Dow. Mexican pine grows in large areas here, and pine lumber is turned out by a mill at Pearson, Chihuahua, financed by British capital. The capacity of the Pearson mill is estimated at 1,000,000 feet of lumber daily, but during the winter of 1920-21 the operations of the plant were reduced. The operating company owns large tracts of pine forest near enough a railway to permit convenient shipment of the lumber to the border.

This local output of pine limits the market for American lumber, though some southern pine is imported from the United States for mine timbers, despite the higher price of the American product. The market for hardwood is small, as this section of the country has not been educated to its use. The two railroads in this district use yellow-pine crossties imported from the United States, or ties of Mexican pine, the latter variety being similar to the American white pine. The ties used here are generally 8 feet in length, 8 inches wide, and 6 inches thick.



MAHOGANY LOGS PREPARED FOR MARKET.

Mexico is particularly rich in forest resources. The extensive forests of the hot country in the States along the coasts contain not only mahogany but also a great variety of other cabinet woods.

During the war the demand for mahogany led to unusual activity in this industry at the port of Frontera, in the State of Tabasco, the production in 1918 having increased 25 per cent over that of the previous year. Two-thirds of the ships sailing from Frontera to the United States in 1917 carried cargoes of mahogany and cedar exclusively. The exports of mahogany logs from Frontera to the United States in 1917 amounted to 4,727,407 feet, valued at \$503,420. In 1918 they increased to 6,300,280 feet, valued at \$532,581, and in 1919 they were 6,195,680 feet, valued at \$654,660. Mahogany manufactured into lumber was also shipped from Frontera in 1919 to the quantity of 268,645 feet, valued at \$25,530. The cedar logs shipped from this port in that year amounted to 191,000 feet, valued at \$16,575. Dyewoods, called "palo de tinte," are among the woods native to the Frontera district.

Imported lumber can not compete in price with the native hardwoods of Frontera. The lumber imports into this district in 1918 were valued at only \$2,120 and in 1919 at \$1,154. For furniture, launches, and barges, and for building purposes as well, the native mahogany and cedar are used almost exclusively by local manufacturers and builders. These woods are usually exported in the form of logs. In this district the streams and rivers when swollen by heavy rains permit the floating of the logs from the highlands.

The production of fruits and vegetables at Guaymas and Hermosillo, in the State of Sonora, leads to markets there for packing-case shooks, reports Consul B. F. Yost. However, the markets are not large at the present time. In Mazatlan, Sinaloa, a standard wooden crate is used for tomatoes, the crate designed to contain from 26 to 30 pounds. Near the Sonora line, in the State of Chihuahua, a large tract of pine-timber land has been purchased by a railway, which purposes using the timber for the manufacture of crossties. The ties will be transported by mules to the Yaqui River, then floated down the river to Esperanza.

Consul W. E. Chapman, of Mazatlan, has furnished a recent report on the commercial woods of his consular district that comprises the States of Sinaloa and Nayarit, embracing some 25,000 square miles. Many varieties of both hard and soft woods are found in large quantities in the mountainous regions, but the lack of transportation prevents the profitable marketing of this timber, except in a few sections. On the seacoast plains and the foothills of the mountain ranges parallel to the coast line the timber is rather small and sparse. In recent years large shipments of dyewoods have been sent from Sinaloa to New York, but most of these woods that were easily accessible to railways and seaports have been cut away, and wood cut in the interior must be transported on the backs of burros, reducing



A MAHOGANY LOG LOADED IN THE FOREST UPON ITS CART.

After the log has been felled and sawed, it is loaded upon a primitive but strong truck called (in Mexico) *trinquial*. This is an evenly balanced two-wheeled cart, well adapted for its purpose.



HAULING LOGS TO MARKET.

Mahogany and Spanish cedar are brought to market from the heart of the forest by the same means. In fact, no real distinction is made between them until the logs are delivered in the foreign port from the steamer. Native methods, by primitive ox or mule carts, are generally employed for moving them, but the railroad is gradually displacing the old-fashioned cart.

the profits on this trade. Considerable quantities of dyewoods, as well as ebony and other hardwoods used for furniture, are now being cut and used for fuel at mines and plantations where other fuel is scarce.

Local authorities believe that success in the lumber industry can be obtained only by the operation of a small, portable sawmill, which could be moved about to the different sources of supply within the limits of reasonable transportation facilities. Fancy hardwoods have never existed in dense forests in the Mazatlan section. Several firms have failed in the business of cutting and exporting hardwood logs from the Mexican west coast, and the principal cause assigned for their failure was overinvestment of capital in stationary machinery and other equipment.

One of the possibilities in this connection is the establishment of a plant to produce common lumber for the local demand. A native wood much used is the amapa boba, which is employed for wheel spokes and axles for carts and wagons, also for shovel handles and similar purposes. The Mexican Government, through the department known as Agencia General de Agricultura y Fomento at Mazatlan, has undertaken some interesting research work on the native woods. The results of this study are being embodied in a series of bulletins to be offered the public.

A promising tract of timber, chiefly Spanish cedar, was reported a few miles from the coast line below San Blas, Nayarit, the timber extending southward into the State of Jalisco. Another tract was found in Tepic City, where the altitude is about 4,000 feet. This tract contains several species of trees, including pine, oak, spruce, and cedar. The construction of the Southern Pacific Railway through the Mazatlan consular district absorbed a large part of the timber on either side of the line. Moreover, the railway opened up the country to local industries with incidental lumber requirements and provided transportation for the timber cut within reach of its stations.

Two specimens of each of the 31 common varieties of woods found in the Mazatlan consular district were sent in 1918 from the American consulate at Mazatlan to the Bureau of Standards at Washington for technical tests. The results of the bureau's analysis of the first 12 of these species of seasoned timber are shown in the table below, the technical data on the remainder having been omitted because of the comparatively small quantities available of the other 19 varieties. However, the tests of the entire series are on file at the Mazatlan consulate. It will be noted that certain variations exist in specimens of the same variety of wood. They were subjected to identical tests, but the Bureau of Standards points out that specimens of the same

species often vary through a considerable range, due to imperfections in the wood or to conditions under which the tree was grown:

Specimens.	Rings per inch.	Moisture content.	Weight per cubic foot, air dry.	Static bending.		
				Fiber stress at elastic limit.	Modulus of rupture.	Modulus of elasticity.
				<i>Lbs. per sq. in.</i>	<i>Lbs. per sq. in.</i>	<i>Lbs. per sq. in.</i>
	<i>Num-ber.</i>	<i>Pcr cent.</i>	<i>Pounds.</i>			
Amapa.....	13	10.35	53.63	10,920	16,242	1,710,000
	13	10.79	50.39	10,680	16,027	1,686,000
	24	12.56	62.80	7,300	12,055	1,595,000
Arrayan.....	24	12.48	57.47	6,410	12,300	1,713,000
	21	11.02	29.69	6,270	10,444	1,082,000
Cedro Colorado.....	21	11.00	26.93	4,350	6,949	1,252,000
	20	13.37	76.78	13,400	20,000	2,240,000
Elano.....	20	13.51	77.10	5,180	5,642	1,190,000
	7	9.37	18.40	2,080	4,580	345,000
Guanacastle.....	7	9.41	18.22	2,360	4,696	394,000
	12	9.319	24.84	2,717	5,780	1,145,000
Haba.....	12	10.724	22.66	4,155	6,942	1,082,000
	14	10.51	58.92	9,420	11,752	1,774,000
Mauto.....	14	11.58	58.33	9,570	14,000	1,995,000
	8	9.60	61.60	8,800	11,930	1,243,000
Mesquite.....	10	10.22	56.22	8,000	12,685	1,422,000
	10	10.02	52.87	15,750	24,300	2,060,000
Mora.....	10	9.68	58.28	13,750	17,045	1,827,000
	22	10.64	59.76	10,930	15,944	2,002,000
Palo Colorado.....	22	10.65	61.31	10,130	14,478	1,775,000
	25	13.25	63.85	8,060	21,300	1,410,000
Palo Fierro.....	25	13.45	64.56	8,670	15,606	2,379,000
	20	10.67	42.52	9,760	12,305	1,535,000
Venadillo (Ocaova).....	20	10.73	45.72	9,000	8,969	1,450,000

Specimens.	Rings per inch.	Compression parallel to grain.			Hardness. ¹	
		Fiber stress at elastic limit.	Modulus of elasticity.	Maximum crushing strength.	End.	Side.
		<i>Lbs. per sq. in.</i>	<i>Lbs. per sq. in.</i>	<i>Lbs. per sq. in.</i>	<i>Pounds.</i>	<i>Pounds.</i>
Amapa.....	13	4,790	1,320,000	8,375	2,480	3,140
	13	4,850	1,174,000	8,940	2,185	3,040
	24	2,462	692,500	7,580	2,800	2,800
Arrayan.....	24	2,650	616,000	6,000	3,000	2,709
	21	4,700	945,000	6,392	770	750
	21	4,190	945,000	6,165	725	790
Cedro Colorado.....	20	7,990	2,040,000	13,580	2,540	3,980
	20	9,985	2,190,000	14,350	3,400	3,530
Elano.....	7	1,480	388,000	3,555	350	390
	7	1,315	3,215,000	3,310	430	390
Guanacastle.....	12	2,435	634,000	4,545	840	620
	12	2,500	604,000	4,395	570	470
Haba.....	11	6,700	1,325,000	9,970	3,670	3,000
	14	6,110	1,315,000	10,910	3,320	3,370
Mauto.....	8	5,330	1,103,000	9,600	2,360	3,220
	10	5,800	1,197,500	8,640	2,350	2,660
Mesquite.....	10	7,820	1,906,000	14,620	2,600	3,100
	10	10,810	1,786,000	14,470	3,300	3,560
Mora.....	22	3,845	1,027,500	5,780	2,630	2,590
	22	5,880	1,656,500	9,140	2,720	3,020
Palo Colorado.....	25	7,010	1,764,000	11,630	.....	2,780
	25	6,696	1,606,000	11,600	2,840	3,700
Palo Fierro.....	20	5,670	1,343,000	8,360	1,390	1,310
	20	4,950	1,505,000	8,415	1,580	1,400

¹ Load required to embed an 0.14-inch ball to one-half its diameter.

Lumber operations in the Salina Cruz district were at a low ebb in 1920, according to a report of Consul Lloyd Burlingham. Some timber was cut for local consumption, but little was exported. Con-

siderable stands of cedar and other hardwoods and balsa wood, commonly known as "jonote," are found in the State of Oaxaca. The balsa timber is rather sparse, and to insure sufficient quantities to make up shipments unsquared logs of not more than 8 to 16 inches in diameter are taken. Because of the thin stands contractors prefer to take orders for only about 200 measured metric tons, or about 100,000 board feet. The wood is brought to the coast from January to June, inclusive. It is transported in lengths of 10 feet and shipped in its bark to properly preserve the wood. Sometimes cement or another substance is put on the ends of logs to prevent splitting during the voyage. Balsa wood is the lightest known timber and is frequently used in place of cork.

An abundance of oak firewood is reported by Consul F. J. Dyer, of Nogales, in the State of Sonora, at a place called Vigia, formerly known as Cos, 55 miles south of Agua Prieta. This oak timber covers a hilly region 3 or 4 miles wide by 30 miles long, extending from Calabasas to Fronteras. During the past three years 1,450 cars of this firewood have been exported from Vigia to the United States, most of it going to the American Army. From January to June, 1920, the exports amounted to 5,488 cords, valued at \$37,612, this quantity exceeding somewhat the total exports of 1919. Notwithstanding the large amounts of oak wood already cut and shipped, quantities still remain in the Vigia region, though it can no longer be found within 5 miles of the railways. Some cedar and pine are also found on the mountain slopes around Vigia. Considerable quantities of these woods are shipped from Agua Prieta, Cananea, and Nogales to the United States.

In a brief report on the lumber situation in Mexico in 1920, Trade Commissioner Charles H. Cunningham, of Mexico City, estimated that the country now produces about half its lumber requirements. With the improvement of transportation facilities in the interior, it is probable that much larger supplies of lumber will be produced for domestic consumption and for export. The center of the native lumber industry last year was in the States of Chihuahua, Durango, Mexico, Michoacan, and Campeche. Many of the large mills in these States have been operating at far below their full capacity. It is impossible to state with accuracy the actual output of the lumber mills in Mexico, or to estimate the normal lumber requirements of the country. Some local authorities believe that the soft lumber of Mexico is not equal in quality to that produced in the United States. Whether or not this can be demonstrated, there is evidently room for large development of the import as well as the export lumber trade of Mexico.

CORN, WHEAT, SUGAR, RICE, AND COTTON IN SOUTH AMERICA

CORN.

CORN is one of the most generally grown of all the crops in South America. The only parts of the continent where it is not found are the southern tip, the higher parts of the Andean ranges, and the Amazon basin. In southern Argentina the slight rainfall prevents corn cultivation. In southern Chile and the higher elevations of the Andes the growing season is too short for corn to mature. In the Amazon basin the heavy forest growth precludes extensive cultivation, although corn grows where it has been tried in that region.

The distribution of corn production is shown on the map opposite. The area and production of corn in the several countries are given in the following table, in which three-year averages are used when possible:

Country.	Years ending—	Area in hectares.	Production in metric tons.
Argentina ¹	1915-1917	3,950,000	4,615,900
Brazil ²	1917	3,058,043	5,174,649
Uruguay ³	1916-1918	258,175	160,411
Colombia ⁴	1915	168,116	166,071
Peru ⁵	1917	74,366	106,270
Venezuela (4 States) ⁶	1916-1918	.....	52,288
Chile ⁷	1916-1918	24,308	36,846
Paraguay ⁸	1918	11,000	19,800
British Guiana ⁹	1918	197,910	.....
Dutch Guiana ¹⁰	1917	.....	1,608

¹ Ministerio de Agricultura de la República Argentina. Dirección General de Economía Rural y Estadística Agrícola. Estadística Agrícola 1917-18. Buenos Aires, 1920. p. 46.

² Ministerio de Agricultura, Industria e Comercio, Directoría Geral de Estadística, Estimativa da Produção do Milho no Brazil, 1916. Rio de Janeiro, 1918. pp. 47-83.

³ Ministerio de Industrias, Oficina de Estadística Agrícola. Anuario de Estadística Agrícola. 1918-19. Montevideo, 1920. pp. 97, 125.

⁴ Ministerio de Hacienda, Dirección General de Estadística. Anuario Estadístico, 1915. Bogotá, 1917. pp. 121-123.

⁵ Directoría de Compañía Administradora del Guano, Limitada. 9^a Memoria. Lima, 1918. pp. 154-159.

⁶ Maldonado, Víctor V.: Estado Bolívar. Vol. 2, pp. 15, 63; Trujillo, p. 41. Caracas, 1918, La Hacienda, No. 2, August, 1918.

⁷ Oficina Central de Estadística. Anuario Estadístico de la República de Chile. Vol. VII, año 1917-18. pp. 125-127.

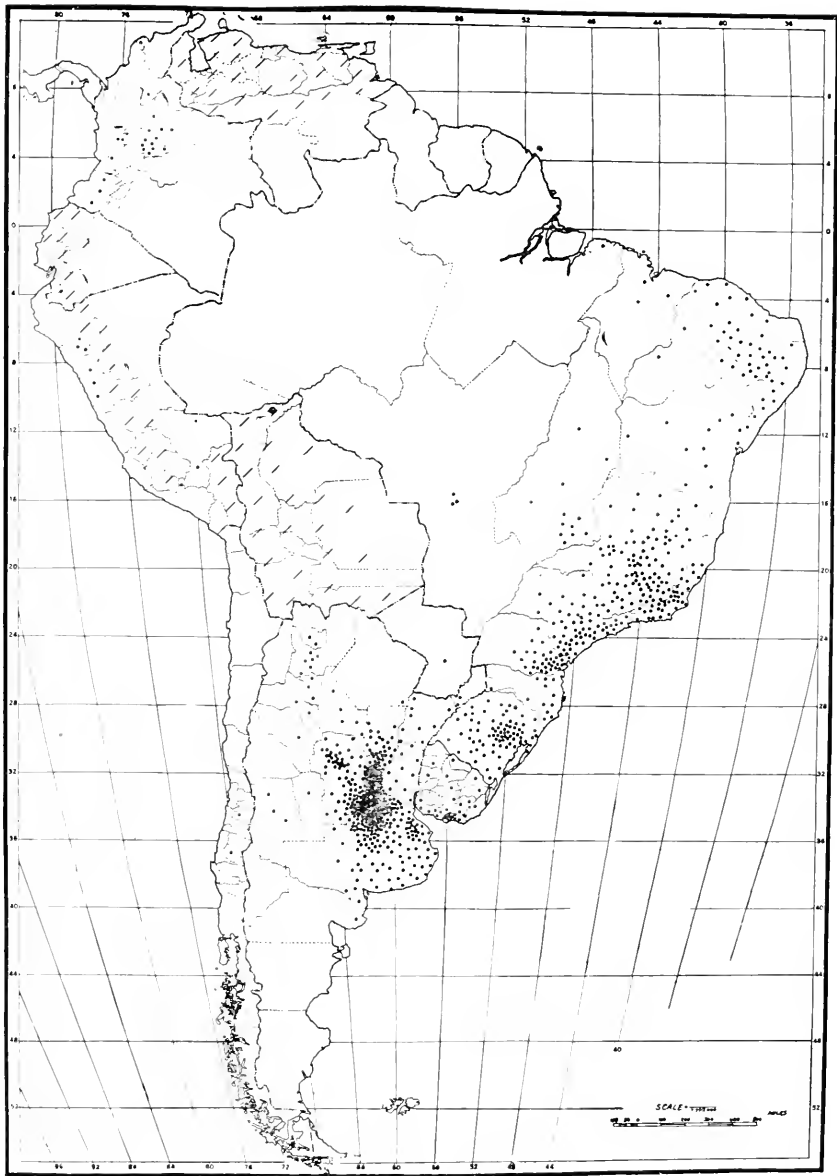
⁸ Institut International d'Agriculture. Annuaire international de statistique agricole, 1917 and 1918. Rome, 1920. pp. 61, 65.

⁹ Department of Science and Agriculture. Report for the year 1918. Georgetown, 1920. p. 28.

¹⁰ Includes plantains and ground provisions.

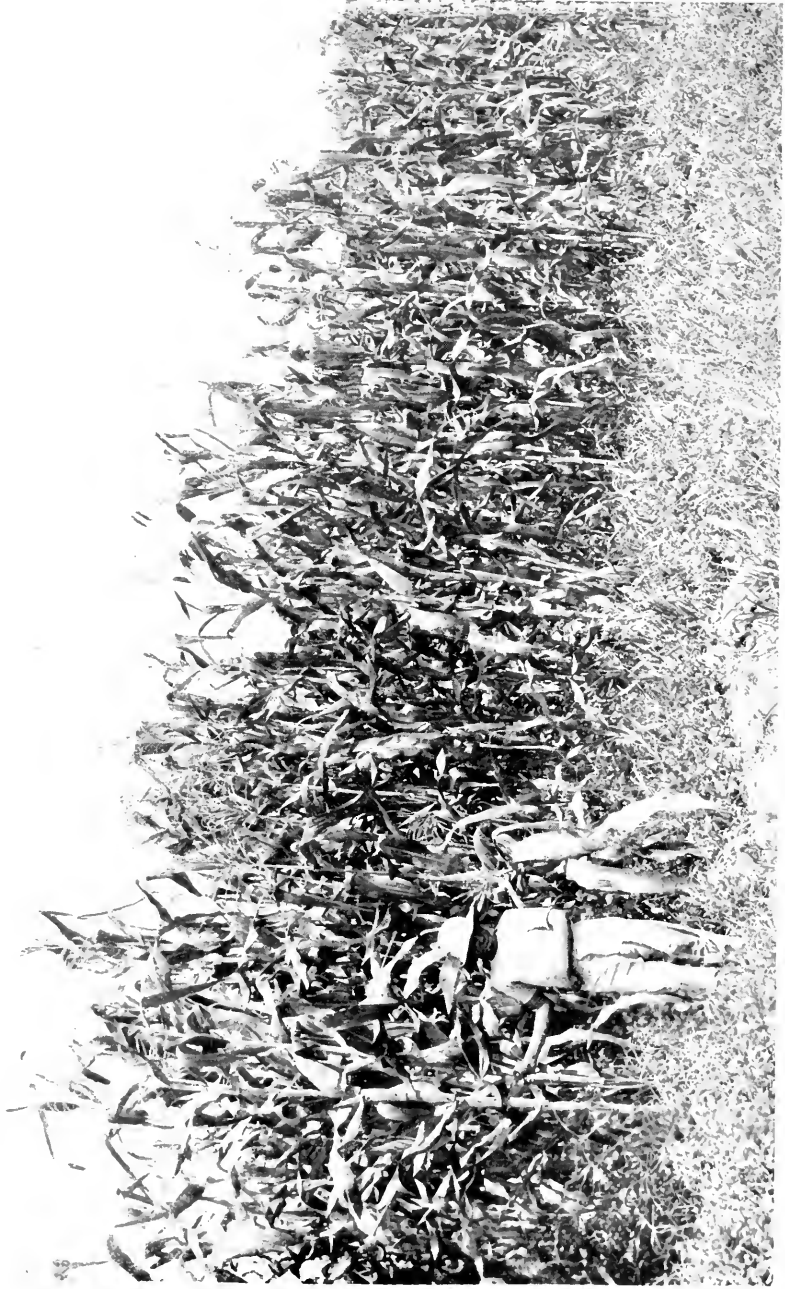
¹¹ Jaarcijfers voor het Koninkrijk der Nederlanden. Kolonien, 1917. 's Gravenhage, 1919. p. 175.

¹ By Lila Thompson, research assistant in agricultural geography, under direction of O. C. Stine, associate agricultural economist, Office of Farm Management and Farm Economics, United States Department of Agriculture.



CORN AREA.

Each dot represents 20,000 acres. // // No figures available.



NEAR-BY VIEW OF A BRAZILIAN CORNFIELD.

The photograph reproduced above was taken near Vespasiano, in the State of Minas Geraes; it gives a fair idea of the average cornfield in Brazil.

Bolivia and Ecuador also produce corn, but no statistics of the amount grown are available.

The chief producing area is comprised in three provinces of Argentina—Santa Fe, northwestern Buenos Aires, and southeastern Cordoba. This region includes about eight-ninths of Argentina's corn area. Climatic conditions there are very favorable to corn production. The range of the average annual rainfall is 500 to 1,000 millimeters, most of the district receiving more than 750 millimeters. The precipitation is heaviest during the summer season.² The frostless season in the lower border of the corn belt is from November to March, inclusive, and in the heart of the region it is from November to April,³ which gives ample time for the crop to mature. In eastern Brazil, the region of next importance in corn production, frost is not a limiting factor. The rainfall is heavier than in Argentina, ranging from 1,000 to 1,500 millimeters in the principal corn districts.

The planting season in the southern corn regions of the continent is from August to December, inclusive. Argentina plants during that time and harvests usually from April to May.⁴ In Paraguay it is possible to grow two crops a year, but it is seldom done. The planting is usually done in August or September.⁵ In central and southern Chile one crop is grown in a year. It is planted from September to November in central Chile and from October to December in the southern part and harvested in March or April.⁶ In the irrigated fields in the northern part of the country two crops may be grown.⁷ The principal one is planted from August to October and harvested before the middle of April.⁶ In southern Brazil the planting takes place about September and the harvesting in May or June. In northern Brazil frequently two crops and sometimes three are grown in a year. The principal crop is planted in January or February.⁸ In the northern valleys of Peru three and even four crops can be grown in a year,⁹ but in the higher elevations of Peru and Bolivia only one crop can be grown and the growing season for that one is limited. In Venezuela two crops can be grown if irrigation is used, but ordinarily only one is planted. This crop is planted about July and the harvest begins in September or

² Data furnished by United States Department of Agriculture, Weather Bureau.

³ Argentine Department of Agriculture. Sketch of the Argentine Republic as a country for immigrants. Buenos Aires, 1904. p. 57.

⁴ Pickell, J. Ralph: *Agricultural Argentina*. Chicago (1918?). p. 40.

⁵ Departamento Nacional de Fomento. *Boletín*, 1915. Numbers 8 and 9, January-March and April-June. Asunción. pp. 108-110.

Balz, Cecilio: *El Paraguay Moderno*. Asunción, 1915. p. 33.

⁶ Servicio de Agrónomos. *Cartilla práctica, cultivo del maíz*. By Julio Figueroa. Santiago, 1916. pp. 20-21.

⁷ Mills, George J.: *Chile*. New York, 1914. p. 126.

⁸ Humnicut, B. H.: Corn culture in Brazil. *In* *Bulletin of the Pan American Union*. Vol. 49, No. 6, December, 1919. pp. 660 and 664. Also *Secretaria da Agricultura, Commercio e Obras Publicas do Estado de São Paulo*. *Boletim da Directoria de Industria e Commercio*. No. 5. May, 1917. p. 234.

⁹ Mozans, Dr. H. J.: *In Peru Today*. Vol. 4, No. 3. 1912. p. 133.



GATHERING CORN IN THE STATE OF SÃO PAULO, BRAZIL.

In Brazil only the top part of the plant is harvested.



DRYING CORN IN A BRAZILIAN PLANTATION.

The-drying process consists merely in spreading the husked ears on the ground, where they are left exposed to the hot sun until thoroughly dry.

October.¹⁰ In Colombia at the lower levels two crops are grown, with no particular time for planting or harvesting them.¹¹

In Argentina, in spite of the large numbers of live stock, less than half of the corn is fed. It is grown there chiefly as a commercial crop for export. In Brazil until recently it has been grown for domestic consumption rather than as a commercial crop. In the years 1916 to 1918 more corn was exported than imported. Venezuela also exports corn every year. Paraguay, Bolivia, and French Guiana are importing countries. The other countries produce about enough for their domestic consumption, importing in some years and exporting in others.¹²

WHEAT.

Wheat thrives best in a temperate region with a fairly cool and relatively dry climate. Practically all of the South American wheat is grown between the thirtieth and fortieth parallels. The average annual rainfall in this region varies from about 1 000 to 500 millimeters except in Chile, where the wheat is grown principally with the aid of irrigation. Most of the wheat is grown in areas where the rainfall is between 500 and 750 millimeters.¹³ To the south the production is limited by the slight precipitation in Argentina and by the topography of the country in Chile. To the north the warm climate limits

¹⁰ United States Department of Commerce. Daily Commerce reports, No. 244. Oct 17, 1918. p. 225. Also, Department of Fomento. Economic conditions of Venezuela. Caracas, 1919. p. 17.

¹¹ Eder, Phanor James: Colombia. London (1932?). pp. 145-146. Also Colombia: Libro Azul. New York, 1919. p. 119.

¹² Argentina: Ministerio de Hacienda de la República Argentina, Dirección General de Estadística de la Nación. El Comercio Exterior Argentina. Año 1910, No. 148; año 1916 y 1917, Boletín No. 176. Buenos Aires, 1918; año 1917 y 1918; No. 180, 1919. Also, Extracto Estadístico de la República Argentina, 1911-1915. Buenos Aires, 1916. Anuario del Comercio Exterior de la República Argentina, año 1916. Buenos Aires, 1918.

Bolivia: Dirección General de Aduanas, Sección de Estadística Comercial. Estadística Comercial from 1910 to 1918. La Paz.

Brazil: Ministerio da Fazenda, Directoria de Estadística Commercial. Comercio Exterior do Brazil, 1910-1914. Vols. 2 and 3. Rio de Janeiro, 1915; 1915-1919, Rio de Janeiro, 1920.

British Guiana: British Colonies, Possessions and Protectorates. Statistical Tables, 1910, Part XXXV; 1911, Part XXXVI; 1912, Part XXXVII. 1912-1915, Statistical Abstract, 53d number; 1916-17, Statistical Abstract, 54th number.

Colombia: Ministerio de Hacienda, Dirección General de Estadística, Comercio Exterior de la República de Colombia, año de 1916. Bogota, 1919.

Chile: Superintendencia de aduanas, Departamento de Estadística Comercial. Estadística Comercial de la República de Chile, 1910-1915. Valparaiso. Also, Oficina Central de Estadística. Anuario Estadístico de la República de Chile, Comercio Exterior. Vol. XI. 1916-1918. Santiago.

Dutch Guiana: Institut International d'Agriculture. Annuaire International de Statistique Agricole, 1917 and 1918. Rome, 1920.

Ecuador: Ministerio de Hacienda. Boletín Estadístico Comercial y de la Hacienda Pública. 1910 to 1915. Quito.

Paraguay: Dirección General de Estadística, Anuario Estadístico, Primera parte, 1910-1916. Asunción, 1916. Also Institut International d'Agriculture, Annuaire International de Statistique Agricole, 1917 and 1918. Rome, 1920.

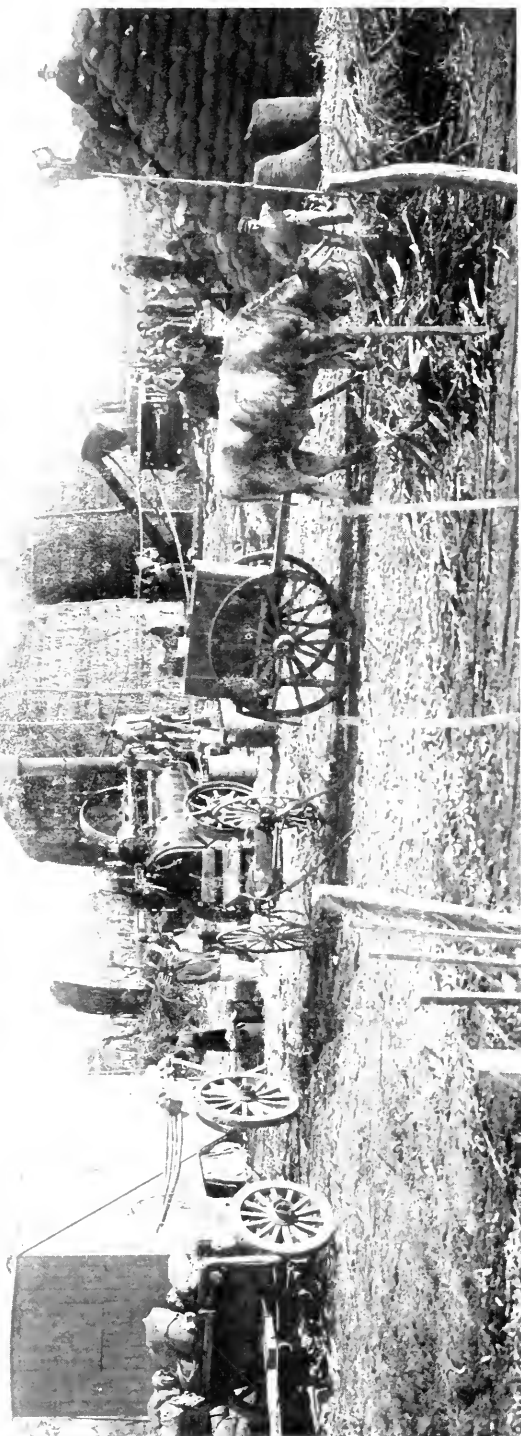
Peru: Ministerio de Hacienda, Dirección de Aduanas. Estadística del Comercio Especial del Peru, 1910-1918. Lima.

Uruguay: Dirección General de Estadística. Anuario Estadístico de la República Oriental del Uruguay 1910-1917. Montevideo. Also Institut International d'Agriculture; Annuaire International de Statistique Agricole, 1917 and 1918. Rome, 1920.

Venezuela: Ministerio de Hacienda; Estadística Mercantil y Marítima, 1910-1918. Caracas.

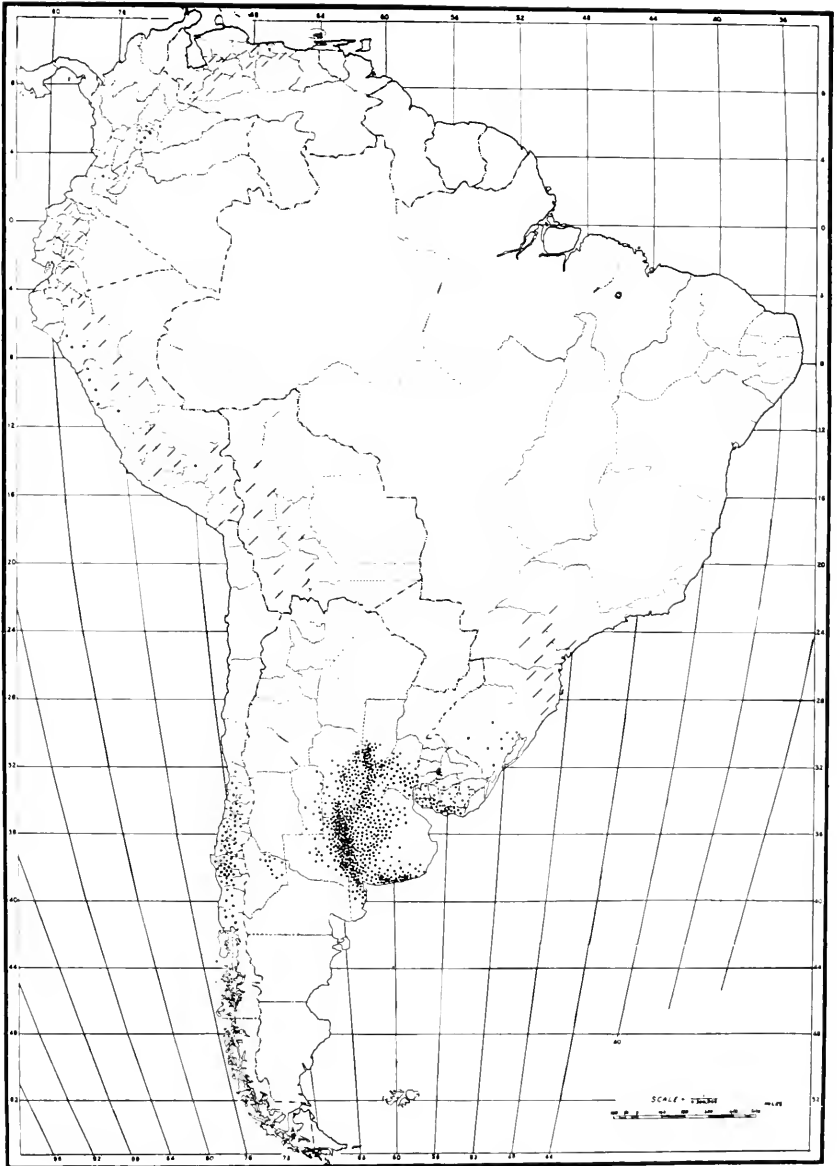
French Guiana: Institut International d'Agriculture. Annuaire International de Statistique Agricole 1917 and 1918. Rome, 1920.

¹³ Clarendon Press (Pub.); Oxford wall maps, South America. Mean annual rainfall. London, 1909.



Courtesy of Sr. Angel Olives.

CORN SHELLING ON A FARM IN COMPAÑA DE SAN NICOLAS, ARGENTINA.



WHEAT AREA.

Each dot represents 20,000 acres.

the production. However, each of the tropical South American countries has high plateaus suited to wheat cultivation, and each country except the Guianas produces some wheat.

The area and production of wheat in the several countries are shown in the following table:

Country.	Years ending—	Area in hectares.	Production in metric tons.
Argentina ¹	1915-1918	6,704,000	4,105,000
Chile ²	1915-1918	486,000	577,000
Uruguay ³	1915-1919	350,000	231,000
Brazil-Rio Grande do Sul ⁴	1917	70,000	84,000
Parana and Santa Catharina ⁵	1918	.....	35,000
Peru ⁶	1918	70,000	71,000
Colombia ⁷	1915	57,000	28,000
Venezuela-Trujillo ⁸	1917	.....	3,000

¹ Ministerio de Agricultura. Estadística Agrícola for the years 1915-16, 1916-17, 1917-18. Also International Institute of Agriculture. Crop report and agricultural statistics, No. 6. June, 1920, p. 2367.

² Oficina Central de Estadística. Anuario estadístico de la República de Chile. Vol. 7. Agricultura. Año 1917-18. Santiago. pp. 125-127.

³ Ministerio de Industrias, Oficina de Estadística Agrícola. Anuario Estadístico Agrícola. Año 1918-19. Montevideo, 1920. pp. 84-97, 112-125.

⁴ Associação Commercial de São Paulo. Revista de Commercio e Industria. Anno IV, No. 41. São Paulo. May, 1918.

⁵ American Chamber of Commerce for Brazil. Weekly bulletin. Vol. II, No. 18, Sept. 1, 1920, p. 7.

⁶ Compañía Administradora del Guano, Limitada. 9^a Memoria. Lima, 1918. pp. 154-159.

⁷ Ministerio de Hacienda, Dirección General de Estadística. Anuario Estadístico, 1915. Bogota, 1917, p. 125.

⁸ Maldonado, Víctor V.; Estado Trujillo. Caracas, 1918. p. 42.

Besides these countries for which statistics are available, Bolivia, Ecuador, and Venezuela produce some wheat.

The planting season extends over a long period of time. In Argentina the grain is sown anywhere from May or sometimes April till July in the northern part of the wheat belt and from June to September in the southern part.^{14, 15, 16} Harvesting takes place from November to February.^{14, 16} In Rio Grande do Sul the grain is planted from the last of May till the end of July and harvested in November or December.¹⁷ In Chile sowing takes place from April to June and sometimes even in August, according to the region, and the grain is harvested from December to February.¹⁸

South America exports from 2,000,000 to 3,000,000 metric tons of wheat annually, practically all of which comes from Argentina. Chile and Uruguay also export small quantities nearly every year. Ecuador is nearly self-supporting. Bolivia imports very small quantities. Colombia imports about a fifth of her supply and Peru imports nearly half. Brazil, Paraguay, and Venezuela are heavy importing countries.¹⁹

RICE.

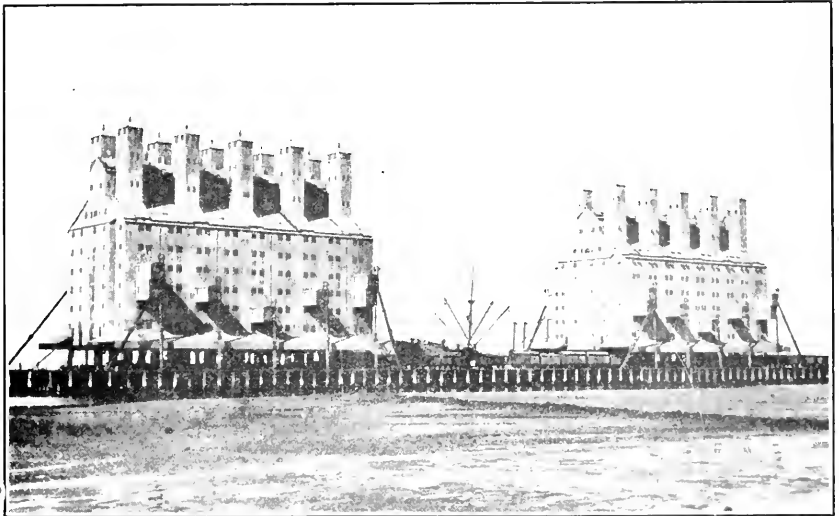
Whereas wheat thrives best in temperate regions and requires only a relatively small rainfall, rice is most successfully grown in

¹⁴ A. Estancia. Anno 5. No. 10. October, 1917. Porto Alegre. p. 254.
¹⁵ Wing, Joseph E.: in foreign fields. Chicago, 1913. p. 225.
¹⁶ Pickell, J. Ralph: Agricultural Argentina. Chicago (1918?). pp. 39-40.
¹⁷ Carmo, A. Gomes: O problema nacional de produção do trigo. Rio de Janeiro, 1911. pp. 58 & 65-75.
¹⁸ El Agricultor, Revista de la Sociedad Nacional de Agricultura, vol. 5, No. 3. March, 1920. p. 64.
 And v. 5. No. 6. June, 1920. p. 118.
¹⁹ See references for trade in corn, p. 345.



WHEAT AT NICOLAS LEVALLE, ARGENTINA.

From Nicolas Levalle to the Colorado River is a fine wheat section, single fields lining the railroad in some places for many miles. The picture shows the sacked product awaiting shipment at the station of Nicolas Levalle.



BAHIA BLANCA, ARGENTINA.

Grain elevators at Ingeniero White, the port of Bahia Blanca, which is the natural outlet and gateway of the Rio Negro Valley.

climates having an average temperature for three months during the growing season of 24° C. and a water supply equivalent to about 1,100 millimeters of rainfall.²⁰

In all of the warm South American countries some rice is grown, and even in northern Argentina some rice fields are found.

The rice production of the various countries of South America is as follows:

Country.	Years ending—	Area in hectares.	Production of hulled rice in metric tons.
Brazil ¹	1910		44,807
Peru ²	1918	30,962	40,274
British Guiana ³	1916-1918	23,690	35,240
Ecuador ⁴	1916-1918		18,000
Argentina ⁵	1919	10,700	13,000
Colombia ⁶	1915	6,100	12,824
Dutch Guiana ⁷	1917		5,338
Paraguay ⁸	1918	1,500	3,750
Venezuela (4 States) ⁹	1915-1918		2,159

¹ Granato, L.: O arroz. São Paulo, 1914. pp. 448-450.

² Pan American Union: Bulletin, Vol. 50, No. 6, June, 1920, p. 668. Dirección de Estadística del Ministerio de Fomento. Extracto estadístico, 1918. Lima, 1919, p. 99.

³ Department of Science and Agriculture. Report for year 1918. Georgetown, 1920. pp. 20 and 28.

⁴ United States Department of Commerce: Commerce reports, supplement, annual series. No. 43a. Nov. 8, 1919.

⁵ Anuario de La Razón, 1920. Buenos Aires.

⁶ Ministerio de Hacienda, Dirección General de Estadística. Anuario estadístico, 1915. Bogotá, 1917. pp. 121-123.

⁷ Jaarcijfers voor het Koninkrijk der Nederlanden. Kolonien, 1917. 's Gravenhage, 1919. p. 175.

⁸ Institut International d'Agriculture. Annuaire International de Statistique Agricole, 1917 and 1918. Rome, 1920. pp. 69, 71.

⁹ Maldonado, Victor V.: Estado Trujillo, 1915-1918. Caracas, 1918. p. 41. Estado Bolívar, vol. 2, 1915-1918. Caracas, 1918. pp. 15, 63. La Hacienda, No. 2. Aug., 1918.

The crop is all produced along the coastal plains or the lower flood plains of the rivers except in Brazil and Argentina, where much of it is grown in the interior.

In southern Brazil, where most of the Brazilian rice is produced, the average summer temperature reaches 24° C. only at elevations of a few meters above sea level, and the rainfall during the summer amounts to about 570 millimeters in São Paulo and only about 200 millimeters in Rio Grande do Sul.²¹ Nevertheless, the production of these two States has been increasing rapidly. In 1916 the production of Rio Grande do Sul was 108,000 metric tons, and the production of São Paulo was 116,400 metric tons,²² as compared with 1,700 metric tons and 42,760 metric tons, respectively, in 1909-10.²³

In the Argentine rice district the average summer rainfall ranges from 275 to 345 millimeters; in the Guianas the summer rainfall ranges between 640 and 720 millimeters; and in Peru the rainfall is practically nil, the moisture all being supplied by irrigation.²⁴

²⁰ Finch, V. C., and Baker, O. E.: Geography of the world's agriculture; Washington, D. C., 1917, p. 46.

²¹ Brazil: Ministério da Agricultura, Indústria e Comércio. Observatorio Nacional do Rio de Janeiro, 1919, anno 35. Rio de Janeiro, 1918. pp. 372-403.

²² Secretaria da Agricultura, Comércio e Obras Públicas do Estado de São Paulo. Bol. da Direcção de Indústria e Comércio, No. 5, May, 1917, p. 233, and 914 serie, January, No. 1, anno de 1918.

²³ Granato, L.: O arroz. São Paulo, 1911. pp. 448-450, 436, 453, 106.

²⁴ Data furnished by U. S. Dept. Agriculture, Weather Bureau.



RICE PRODUCTION.

Each dot represents 1,000,000 pounds.

Swamp rice is the type chiefly grown, but in some places, particularly in Brazil, upland rice is also grown.^{23, 25}

The times of planting and harvesting vary with the region. In southern Brazil planting takes place from August to December and the harvest is from January to June.²⁶ In northern Brazil the seed is usually sown from January to April.²⁷ In some parts of Brazil and of British Guiana two harvests are obtained in a year.^{27, 28} In Peru three crops of rice are harvested in a year, and five months are required for the crop to mature.²⁹ In the Bolivian department of Santa Cruz two harvests may be obtained a year.³⁰

South America is not yet quite self-supporting as far as rice is concerned. Brazil and British Guiana are the only countries which produce a surplus for export. Ecuador, Dutch Guiana, Peru, and Paraguay produce most of that required for home consumption. Colombia, Venezuela, Bolivia, Uruguay, Argentina, and Chile are large importers of rice.³¹

SUGAR.

Territorially sugar cane is a crop which is well distributed in the South American countries. It is grown in every country but Chile and Uruguay, and preparations are being made to grow cane with irrigation in the northern part of Chile.³² Below the thirtieth parallel the short duration of the growing season limits the production of cane, and even north of that, in the sugar areas of Tucuman and Jujuy, occasional early frosts make it necessary to start grinding before the cane is mature.³³ In the Tropics little is grown at an elevation of more than 6,000 feet, and most of it is grown at the lower levels of the valleys and the seacoast.³⁴ The crop requires an amount of moisture equivalent to an annual rainfall of from 1,250 to 1,625 millimeters.³⁵ In most of the sugar lands of South America cane is dependent on the rainfall for this moisture, but in Peru and

²³ Associação Commercial de São Paulo, Almanach Commercial Brasileiro, São Paulo, 1918, p. 171. Also United States Department of Commerce: Commerce Reports, No. 218, Sept. 18, 1917, pp. 1048-9. Also No. 221, Sept. 20, 1919, p. 1502. Buley, R. C.: South Brazil, London, 1914, p. 114. Levine, V.: Colombia, New York, 1914, p. 106. Royal Agricultural and Commercial Society of British Guiana, Timehri, vol. 5, Aug., 1918, Demerara, p. xlvii. Vivian, E. Charles: Peru, London, 1914, p. 146. Silveira, Alvaro da: Consultor Agricola, Bello Horizonte, 1918, p. 145.

²⁶ United States Department of Commerce: Latin-American Circular, No. 47, Oct. 31, 1918. Also Secretaria da Agricultura, Commercio e Obras Publicas de Estado de São Paulo, Boletim da Directoria de Industria e Commercio, No. 5, May, 1917, p. 233, and 10th serie, No. 9, September, 1919, p. 407.

²⁷ Oakenfull, J. C.: Brazil, Frome (1914?), p. 335.

²⁸ Royal Agricultural and Commercial Society of British Guiana: Timehri, v. 5, August, 1918, Demerara, p. xlvii.

²⁹ Walle, Paul: Le Pérou économique, Paris (1908?), pp. 167-168. Vivian, E. Charles: Peru, London, 1914, p. 146.

³⁰ Walle, Paul: Bolivia, New York, 1914, p. 377.

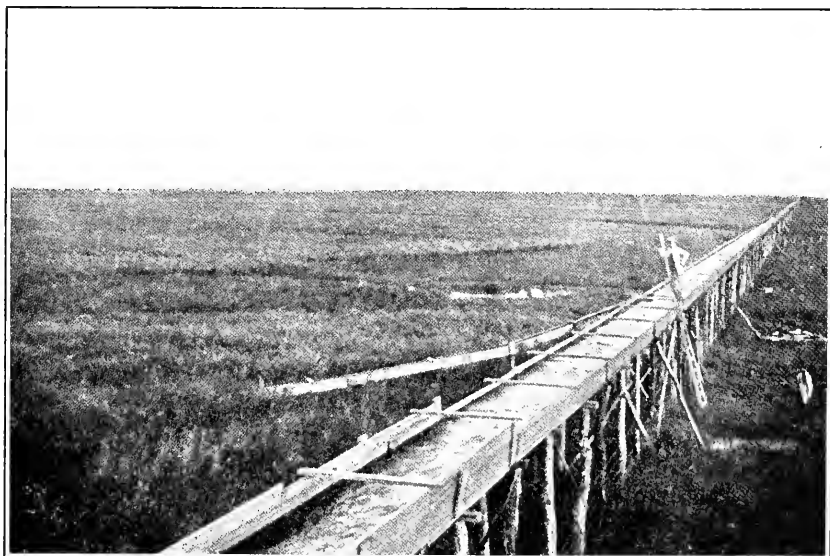
³¹ See trade references on p. 345.

³² The Louisiana Planter and Sugar Manufacturer, v. Ixiv, No. 25, New Orleans, 1919, p. 399.

³³ United States Department of Commerce: Daily Commerce Reports, No. 238, Oct. 9, 1920, p. 1.

³⁴ Vivian, E. Charles: Peru, London, 1914, p. 145. Levine, V.: Colombia, New York, 1914, p. 103.

³⁵ Finch and Baker: Geography of the world's agriculture, Washington, D. C., 1917, p. 72.



RICE CULTURE IN BRAZIL.

Top: An irrigated rice field near the Moreira Cesar station on the Central Railway of Brazil, State of São Paulo, about midway between Rio de Janeiro and the city of São Paulo. Bottom: Conveying water for irrigating sections of rice lands in Brazil by means of elevated sluices.

northern Argentina irrigation is used either entirely or to supplement the natural supply of water.³⁶

In most of the sugar areas fertilizers are very little used. It is not unusual for cane to be grown on the same ground continuously for 20 to 40 years without employing fertilizers, and cases have been noted in which cane has been grown on the same soil for two centuries without any attempt to restore the soil. When the land does become worn out the practice is to abandon it and bring a new piece under cultivation.³⁷ The Peruvian coastal sugar plantations are an outstanding exception; on the irrigated areas of that district guano is commonly used to enrich the soil.³⁸ The methods usually employed on the cane fields are very primitive, but each country has a few plantations on which modern methods and equipment are used and which have their own sugar centrals for grinding the cane and making sugar.

The length of time required for the cane to reach maturity varies in the different regions. In Argentina the cane must ripen in less than a year to avoid frosts, and they are now using the hardy Java canes to a large extent in Tucuman, as they mature earlier than the native canes. In Jujuy the native canes are used more extensively. The grinding season there begins about the 1st of May, although the cane is often not fully matured until about the 1st of July.³⁹ In Paraguay about a year is required for the cane to mature, and the grinding season is later than that of Argentina.⁴⁰ In eastern Bolivia the cane is ready for cutting in about 10 months, and is seldom injured by frost.⁴¹ In the rest of South America the cane requires from 12 to 18 and even 22 months to mature, depending on whether seedlings or cuttings were planted and also on the region. In Peru the usual period is 18 months, but in many districts 22 to 24 months are required, and in others along the coast only 16; but on up-to-date plantations, with modern methods of cultivation and fertilization, the cane is brought to its maximum growth in 13 or 14 months.⁴² In Brazil only from 11 to 13 months are required if shoots are used, otherwise 13 to 18 months are necessary. The principal time of cutting there is from May or June to October, but cutting takes place more

³⁶ Luitweiler, J. C.: Peru—Its products and possibilities, in *The Americas*. v. 2. No. 9. June, 1916. p. 28. Carrel, M. Drew: Tucuman and the sugar industry of Argentina, in *The Americas*. v. 2. No. 7. April, 1916. p. 21.

³⁷ Levine, V.: Colombia. New York, 1914. p. 103. Walle, Paul: *Etats de Goyaz et de Matto Grosso*. Paris, 1912. p. 46. *The South American Yearbook*. London, 1915. pp. 774-775, and 610. *Associação Commercial de São Paulo: Almanach Commercial Brasileiro*. São Paulo, 1918. p. 162. United States Department of Commerce: *Daily Commerce Reports*. May 9, 1917. p. 520.

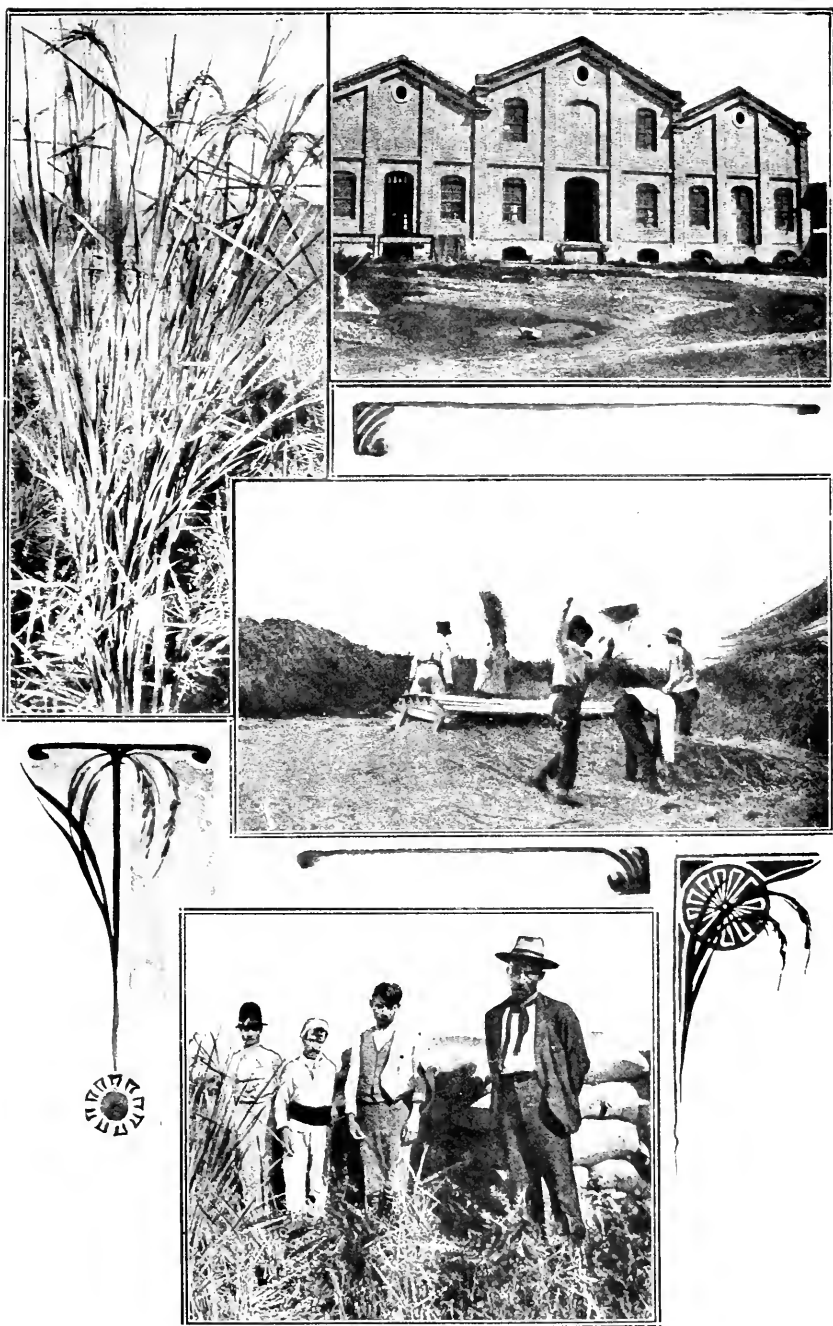
³⁸ *The Louisiana Planter and Sugar Manufacturer*, vol. LXV. No. 16. Oct. 16, 1920. p. 250. *Berichte über Handel und Industrie*, Band 14, Berlin, 1910. p. 180.

³⁹ United States Department of Commerce: *Daily Commerce Reports*, No. 238. Oct. 9, 1920. pp. 1 and 2.

⁴⁰ *The South American Yearbook*, op. cit.

⁴¹ United States Department of Commerce: *Daily Commerce Reports*. May 9, 1917. p. 520.

⁴² Luitweiler, J. C.: Peru, its products and possibilities in *The Americas*. Vol. 2, No. 9. June, 1916. p. 29. Paz, Carlos Romero: Statistics of the sugar industry for 1911, in *Peru to-day*. Vol. 4, No. 8. Nov. 1912. pp. 426-427.



THE RICE INDUSTRY IN ARGENTINA.

Top: Left, an Argentine rice plant; right, a rice mill at Aguillares, Tucuman. Center: Thrashing rice in an Argentine field. Bottom: Sacks of rough rice, or "paddy," ready for transportation to the mill.

or less the year around.⁴³ In Venezuela at one of the most important sugar centrals the grinding period is from December to June, but cutting is general throughout the country during the whole year.⁴⁴ In the coast section of Colombia the cutting takes place from December to May, since the heavy rains make regular work difficult the rest of the year, but in the Cauca Valley the cutting and grinding are carried on throughout the year.⁴⁵

Of the sugar made, a small portion is refined white sugar, but most of it is brown sugar of varying grades.

There is very little accurate information on sugar production in South America. The following table, made up partly of accurate statistics and partly from estimates, gives some idea of the production of the different countries.

Country.	Years ending—	Production of white and brown sugar in metric tons.
Brazil ¹	1919	399,600
Peru ²	1915-1917	267,000
Colombia ³	1915	186,160
Argentina ⁴	1917-1919	162,000
British Guiana ⁵	1916-1918	111,800
Venezuela ⁶	1920	27,200
Dutch Guiana ⁷	1917	14,360
Ecuador ⁸	1917	7,800
Paraguay ⁹	1917-1919	1,260

¹ Secretaria da Agricultura, Commercio e Obras Publicas do Estado de São Paulo: Boletim da Directoria de Industria e Commercio. 10^a Serie, No. 2, 1919. p. 67. Associação Commercial de São Paulo: Almanach Commercial Brasileiro. São Paulo, 1918. p. 163.

² Ministerio de Fomento: Estadística de la Industria azucarera en el Perú. Lima, 1917. pp. 9, 19. Also Bulletin of Pan American Union. Vol. IJ, No. 4, Oct., 1920. p. 422.

³ Ministerio de Hacienda, Dirección General de Estadística: Anuario estadístico, 1915. Bogota, 1917. p. 122.

⁴ United States Department of Commerce: Supplement to Commerce Reports, Annual series, No. 41b, June 24, 1920. p. 4. Tornquist, Ernesto & Co.: The economic development of the Argentine Republic in the last 50 years. Buenos Aires, 1919. p. 61.

⁵ British Guiana: Department of Science and Agriculture. Report for the year 1918. Georgetown, 1920. p. 15.

⁶ United States Department of Commerce: Daily Commerce Reports. No. 132. June 5, 1920. p. 1331.

⁷ Jaarrijfers voor het Koninkrijk der Nederlanden, Koloman, 1917. s'Gravenhage, 1919. p. 175.

⁸ Informe que el Ministro de Hacienda presenta á la Nación, 1917. Quito. pp. 141-148. Enock, C. Reginald, Ecuador. p. 327.

⁹ United States Department of Commerce: Supplement to Commerce Reports, annual series. No. 48a, July 22, 1920. p. 10. United States Department Agriculture, Bureau of Crop Estimates: Foreign crop and live stock reports, No. 35, Aug. 31, 1920. p. 7.

The Venezuela production figure is a rough estimate and seems to be much smaller than the actual production. The Ecuador figure also is only a rough estimate. No estimate of the Bolivian sugar production is available, but the amount is so small that it makes little difference in the total production of the continent.

Of these countries Brazil, British Guiana, Colombia, Dutch Guiana, Peru, and Venezuela produce enough for domestic consumption and have considerable quantities remaining for export. Bolivia, Chile,

⁴³ Secretaria de Agricultura, Commercio e Obras Publicas do Estado de São Paulo. Boletim de Agricultura. Serie 21, Nos. 1, 2, 3, 1920. pp. 16-17. Comissão d'Expansão Economica do Brazil: Brazil, Its Natural Riches and Industries, 1910. São Paulo. pp. 61, 66.

⁴⁴ United States Department of Commerce: Daily Commerce Reports. No. 199, Aug. 24, 1918. p. 745. Department of Fomento: Economic conditions of Venezuela. Caracas, 1919. pp. 21-22.

⁴⁵ Eder, Phanor James: Colombia. London, 1913. p. 147.



SUGAR PRODUCTION.
Each dot represents 2,000,000 pounds.

Paraguay, and Uruguay produce little or no sugar and are dependent upon imports for their supply. Ecuador also imports some sugar every year. In years when Argentina has a good crop she has enough to export large quantities, but in most years she is a fairly heavy importer. No statistics are available for French Guiana, but she probably produces enough for domestic consumption.⁴⁶

COTTON.

Cotton grows as far south as the twenty-eighth parallel. South of that the climate is too cold for the plant. Within the zone in which the plant thrives there are also further limitations to its growth. In a large part of the Andean region the altitude offsets the effects of the tropical climate and no cotton is to be found. Very little is found in the Tropics where the annual rainfall is more than 1,500 millimeters. The chief cotton-producing regions are the dry north-eastern section of Brazil and the coastal zone of Peru. São Paulo also produces considerable quantities of cotton. The Atlantic coastal strip of Colombia and Venezuela seems suitable for cotton, but up to the present little has been grown there.⁴⁷ In Chile no cotton is grown, but it is believed that the arid coastal plain of the north is as suitable for the crop as the Peruvian coast, and when irrigation is established the industry may develop there to a considerable extent.⁴⁸ In Bolivia cotton is not a prominent crop. In British Guiana both soil and rainfall conditions are unfavorable for the imported varieties, and only a little native cotton is grown.⁴⁹ It is probable that similar conditions prevail in Dutch Guiana.

The distribution of cotton production in South America is shown by the following table:

Country.	Years ending—	Production of lint cotton in metric tons.
Brazil ³	1919	124,880
Peru ⁴	1916	24,604
Colombia ⁵	1915	3,617
Venezuela (4 States) ⁶	1915-1918	3,290
Argentina ⁷	1917-1919	2,807
Ecuador ⁸	1916-1918	1,360
Paraguay ⁹	1917-1918	1,300

³ Sociedad Comercial de São Paulo; Revista de commercio e industria. v. 6, No. 61, Jan., 1920. p. 85.

⁴ Dirección de Estadística del Ministerio de Fomento; Extracto Estadístico, 1918. Lima, 1919. p. 101.

⁵ Ministerio de Hacienda, Dirección General de Estadística; Anuario estadístico, 1915. Bogotá, 1917. p. 122.

⁶ Maldonado, Víctor V.; Estado Trujillo, 1915-1918. Caracas, 1918. p. 41. Estado Bolívar, v. 2, 1915-1918. Caracas, 1918. pp. 15 and 63. La Hacienda, No. 2, August, 1918.

⁷ Ministerio de Agricultura de la Nación; Boletín Mensual de Estadística agrícola, No. 10, Oct., 1918. p. 204. Also Institut International d'Agriculture; Annuaire international de statistique agricole, 1917 and 1918. Rome, 1920. pp. 132 and 134.

⁸ United States Department of Commerce; Commerce Reports, Supplement, annual series. No. 43a, Nov. 8, 1919.

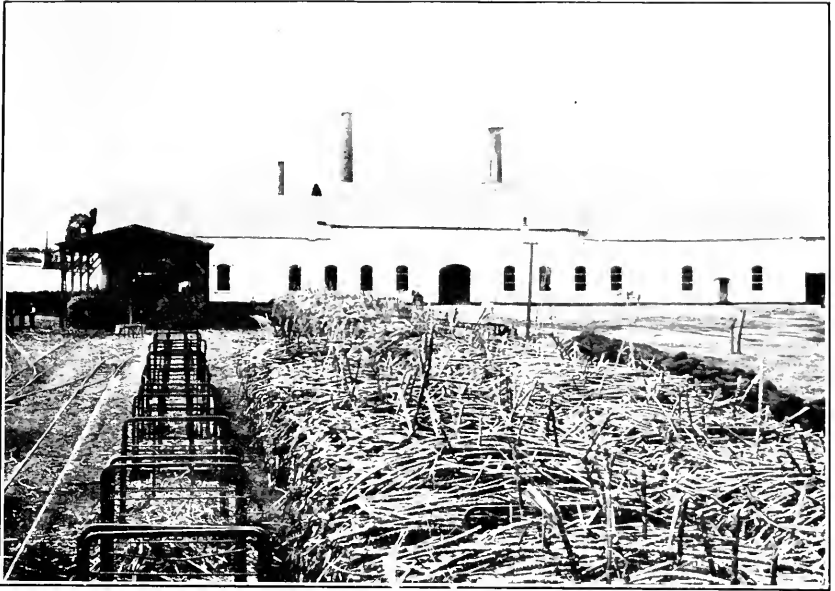
⁹ United States Department of Commerce; Commerce Reports, Supplement, annual series. No. 45a, July 22, 1920. p. 10.

⁴⁶ See trade references, p. 345.

⁴⁷ The South American Yearbook. London, 1915. p. 743. Eder, Phanor James; Colombia. London, (1913 ?), p. 133.

⁴⁸ The Louisiana Planter and Sugar Manufacturer; v. 64, No. 25. New Orleans, 1919, p. 399. Beze, Francisco de; Chile: Informaciones útiles, 1919, pp. 28-29.

⁴⁹ Royal Agricultural and Commercial Society of British Guiana; Timri, v. 5. August, 1918. Demerara, p. lxvii.



THE SUGAR INDUSTRY IN PERU.

The sugar industry in Peru has become an important factor in the country's economic development, and much foreign capital is invested in plantations and factories. Peru's export of sugar in 1919 was 272,122 metric tons. Upper: The mill at Sausal. Lower: Transferring the cane from cars to the factory.



COTTON PRODUCTION.

Each dot represents 1,000 bales (500 pounds each).

The figures must be considered as merely estimates, as in only a few cases are actual statistics available on the production of cotton in the South American countries.

The general picking season in South America except in Peru is from about December to June. The time of harvesting varies considerably with the locality and the kind of cotton grown. The herbaceous cotton is ready for the beginning of harvest from three to nine months after planting, and the tree cotton requires from a year to 18 months before a good harvest is obtained.⁵⁰ In Peru the general picking season for American cotton is from May to August or September, and for Peruvian cotton from August to December, although for the native cotton there are frequently two harvests a year, and in the north there is frequently cotton ready for picking the year round.⁵¹

As a continent South America is an exporter of cotton. Over an eight-year period the net exports averaged about 30,000,000 kilos. Brazil and Peru are the chief exporting countries. Brazil's exports fell off considerably during the war period, but those of Peru remained about stationary. Ecuador also produces a small surplus for export. Argentina, Paraguay, and Venezuela produce about enough to supply the home demand, exporting in some years and importing in others. Chile, Bolivia, Uruguay, French Guiana, and Colombia import either all or a considerable part of their total consumption.⁵²

COMPETITION OF CROPS FOR THE SAME AREAS.

In some areas two or more of these crops can compete with each other to a certain extent. The principal producing centers of both corn and wheat are found in the same four northeastern provinces of Argentina and also in Rio Grande do Sul. Sugar and rice occupy the coastal strips of the Guianas and Peru and the valleys of Colombia. Cotton is also found on the Peruvian coast. Cotton and sugar are both grown extensively in the northeastern States of Brazil, and rice and sugar grow in Tucuman, Argentina.

A glance at the corn and wheat maps will show that the areas devoted to the two crops overlap in Argentina but do not coincide. Wheat can stand a cooler temperature and resists drought better than corn, and so has been displaced by corn to some extent in the warmer, more humid regions. In the Andean regions corn is not grown at as

⁵⁰ Louis Cassier Co. (Ltd.), Pub.: *The South American Yearbook*, 1915. London, 1915. p. 80. *Berichte über Handel und Industrie*, Band 19, Heft 11. Berlin, June 9, 1913. pp. 630 and 633. *Departamento de Fomento: Economic conditions of Venezuela*. Caracas, 1919. pp. 17 and 18. *Comissão d'Expansão, Economica do Brazil: Brazil, its natural riches and industries*, v. 2. Foreign ed. São Paulo, 1910. pp. 82-84. *Paraguay: Boletín del Departamento Nacional de Fomento*, No. 5. April, May, and June, 1914. pp. 8-9. And No. 6, July, August, September, 1914. Asunción. p. 89.

⁵¹ *Ministerio de Fomento: Boletim*, v. XIV, No. 1. Lima, 1st trimestre of 1916, p. 42. *Peru To-day*: v. 1, No. 9. Lima, 1912. p. 486. *United States Department of Commerce: Bulletin, Special agent series*, No. 158, 1918, pp. 72 and 73. Vivian, E. Charles: *Peru*. London, 1914. pp. 145-146. Walle, Paul: *Le Pérou économique*. Paris (1908?). pp. 167-168.

⁵² See trade references, p. 345.



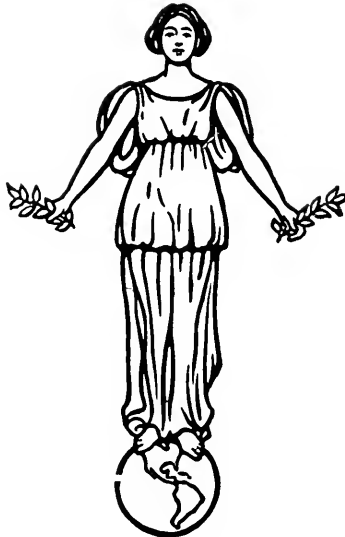
STUDENTS PICKING COTTON AT AN AGRICULTURAL SCHOOL IN BRAZIL.

Great improvement in the selection of seed and the cultivation of cotton has taken place in Brazil during the last few years. In the above reproduction of a photograph may be seen students of the Piracicaba Agricultural School picking cotton in one of the experimental fields of the institution. The Federal and State Governments are active in lending their aid to develop the industry, and several expert cotton growers have been brought from the United States for the purpose of classifying and standardizing the best cottons for Brazilian planting and to teach the best methods of cultivation.

high an elevation as wheat. Wheat does not compete with sugar, cotton, and rice to any extent.

Cotton and sugar require a temperature that is semitropical or warmer. However, cotton and sugar compete very little. Cotton grows well in dry regions and requires a fairly long dry season during the time of ripening and picking, while sugar cane requires considerable moisture. Both cotton and sugar cane are grown in the northeastern Brazilian States, but a large part of the cotton is grown in the drier districts in the interior, whereas little of the sugar is grown in those districts. Most of the sugar is grown in the more humid regions near the coast. In general most of the cotton is grown in regions receiving 1,000 millimeters or less of rainfall annually. The chief exception to this is São Paulo, where the crop is grown in regions receiving from 1,000 to 1,500 millimeters. Sugar cane is grown principally on lands receiving more than 1,500 millimeters of rainfall, although in northeastern Brazil the plant receives as little as 500 millimeters of precipitation. In the irrigated regions of Peru, particularly in Lima, there is a keener competition between the two crops.

Sugar and rice are more similar in their natural requirements than sugar and cotton. Both need a warm, humid climate and a fairly fertile soil. Rice requires much more moisture over a short period of time than sugar. British and Dutch Guiana and Tucuman are the regions where competition between these two crops is greatest. In general the upland rice and sugar cane occupy similar areas, but the swamp rice grows more extensively in the flood plains of the rivers.



SANITARY PROPAGANDA IN BRAZIL

By DR. GERALDO DE PAULO SOUZA

[Dr. Souza was one of the first two men selected from Brazil as holders of the fellowship granted by the International Health Board of the Rockefeller Foundation. He was in the United States two years, from 1918 to 1920, and took the regular course at the Johns Hopkins School of Hygiene and Public Health in Baltimore, Md., receiving at the end of the course the degree of doctor of public health. He returned to Sao Paulo, Brazil, in July, 1920, to become a member of the staff of the Instituto de Hygiene of the Faculdade de Medicina e Cirurgia de Sao Paulo. The sanitation propaganda which he describes in his article is part of the work he has there undertaken in cooperation with the city health department of Sao Paulo.]

THE dissemination of sanitary precepts is undoubtedly one of the most important points in the sanitary work of the public health officer. This is a well accepted, commonplace fact in all advanced countries, and Farrand has even said that the sanitary education of the people is more important than its sanitary administration.

Here in Brazil, as in other Latin countries, the fear of ridicule or else the scorn for all trivial "terre à terre" occurrences prevents us from using some simple, practical devices which would be quite sufficient to produce satisfactory results.

Undoubtedly Sao Paulo typifies the highest degree of development reached in the feverish struggle toward progress observed at present in this country. This is due to a combination of the best qualities of the Latin race with a good dose of common sense.

A well-organized and, according to the state of things, perfectly satisfactory sanitary administration, was inaugurated nearly 25 years ago. Unhappily, this sanitary administration has not developed and unfolded itself in accordance with the rapid changes observed in the State, and it is now unable to provide for all our needs. We must say, however, that the plans for a reform in the sanitary administration are already being discussed by men of the younger generation.

Be it as it may, we do not want to write a report on the present sanitary conditions, nor to inquire into the efficiency of the methods at present in use. We only wish to tell how we tried to stir up the interest of the public and of the Government officials in certain as yet

untreated questions which would be of the greatest importance to the public health.

As far as we know the newspapers have been very little utilized for sanitary propaganda here, and then only at a time when there was a very severe epidemic of typhoid fever in Sao Paulo. This epidemic was caused by the utilization for the water supply of the highly polluted waters of the river Tiete, against the advice of the whole medical profession and despite the efforts of the director of the bacteriological institute. As he was not able to prevent this, the director of the bacteriological institute informed the population of these facts through the newspapers, advised them to be vaccinated against typhoid fever, and to boil their drinking water. His advice was generally accepted, so that, for a time, it became quite the fashion to be vaccinated against typhoid fever.

In a talk with Mr. Amadeu do Amaral, one of the editors of the *Estado de Sao Paulo*, a daily of very wide circulation in Sao Paulo, as well as throughout the whole State, he became convinced of the important results which could be derived from a sanitary propaganda along new lines, by means of the *Estado* and an antispitting campaign was decided on there and then. It is well known that it would be impossible in any country to stop the public from spitting in places of public resort only through the promulgation of sanitary laws. Either they would be ignored or their enforcement would be neglected through carelessness on the part of those responsible for its enforcement, or through their unconcern for the good of the community. Besides, the fact of forbidding all spitting on the floors without providing for some appropriate receptacle to this end would be rather an imposition. So we planned to stir up the interest of the public by showing them the danger of transmitting diseases by spitting, and also how to avoid endangering other people's lives by this means.

Our first publication showed how some diseases which cause a large number of deaths in this city may be transmitted through spitting on the ground or floor in places of public resort. Next day we explained how all spitting on the floors, in the cars, and on the street walks could be avoided by the use of special receptacles or by spitting only in the sewer inlets. The third day we opened a contest and offered prizes for those able to write a sentence with important meaning out of a jumble of words. A few days afterwards we had the sentence expressed in the puzzle printed correctly and illustrated it by the picture of a very thin, sick-looking man in the act of spitting. The individuals able to guess the puzzle received as reward a post card with the same illustration in colors. This same card was then sent to drug stores, to dentists, physicians, etc., and we requested them to have it

placed in a conspicuous place in their offices. We sent also the same cards to be placed in all the street cars.

Later on we plan to publish other sanitary puzzles, illustrating important hygienic sanitary precepts, and so keep awake the interest of the public in these matters.

Besides an antisputting campaign, this institute has already done some propaganda work on the use of individual drinking cups. A paper model with the necessary explanations as to how to fold the paper to fashion a cup out of any sheet of paper has been sent to factories, schools, police stations, etc., with the request to have it as widely circulated as possible. By these means we have tried to overcome the general fear of ridicule or of doing a childish thing, and we hope that such propaganda work will be taken over by the sanitary service and further amplified.

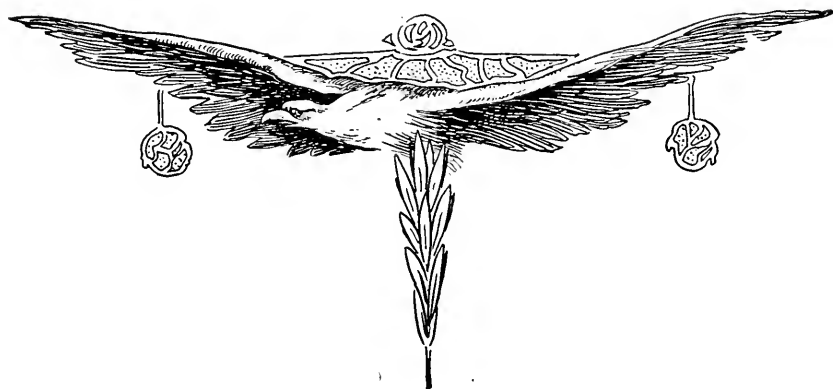
The cost of such propaganda is relatively small, as we nearly always have been able to obtain the necessary cooperation gratuitously. The material used in this campaign was 100 per cent Brazilian, for from its conception to its lithographic reproduction it was all done by Brazilians. A little later we still plan to illustrate the following hygienic precepts:

2. The individual use of drinking cups. With this card we will publish also the directions for fashioning a cup out of any sheet of paper.

3. The need of covering up each cough or sneeze—a very much needed precept here.

4. The daily bath, which is planned to instruct newly arrived foreigners, especially Italians, for among Brazilians bathing is a well-known institution.

5. The wearing of shoes to avoid hookworm infection. The national type of the native farmer, always barefoot, is frequently infested with hookworms and therefore inefficient, but whenever he is in good health he is a type of notable resistance and energy.



LATIN-AMERICAN STUDENTS, THE NATION'S GUESTS

By HELEN L. BRAINERD¹

YEAR by year hundreds of students come to the United States from the Republics of South and Central America and the Antilles, as well as from Porto Rico and the Philippines, eager to secure the best training this country affords. It is estimated that there are about 5,000 here at the present time, and that of this number about 3,000 are in colleges, universities, and technical schools, the balance being in preparatory schools. The most popular courses are the definitely professional ones—the various branches of engineering and mechanics, medicine and dentistry, commerce, agriculture, and pedagogy. Some of the institutions having the largest number of Latin-American students are the Universities of Illinois, Louisiana, Michigan, Pennsylvania, Tulane, Columbia and Cornell, Massachusetts Institute of Technology, and Rensselaer Polytechnic Institute. Latin-American student clubs have been formed at all the institutions where there are considerable numbers of such students. The Brazilian Students Association counts some 150 members and publishes its own magazine. Among the creditable student publications of local clubs may be mentioned "Nosotros," edited by the group of Latin Americans at the University of Notre Dame.

The number of women students is comparatively very small, and most of these are in boarding schools. There is, however, a group of notable young women in the colleges, several of whom are doing graduate work and making a distinguished record.

The special needs of foreign students are increasingly being taken into account and met by a variety of agencies. The section of education of the Pan American Union gives information and advice and arranges for admission to colleges and universities, the United States Bureau of Education is often consulted by teachers and other advanced students, while among private agencies the Young Men's and Young Women's Christian Associations (the former working through the "Committee on Friendly Relations among Foreign Students" in New York), the Knights of Columbus, and the Institute of International Education are doing important work. The colleges and universities themselves have done much to help the foreign student "find himself" amid strange surroundings. Special

¹ Section of Education of the Pan American Union.

faculty advisers are provided at the Universities of Illinois, Michigan, Minnesota, Iowa, Kansas, Harvard, Oberlin, Grinnell, Howard University, Park College, University of Chicago, and doubtless many more; special courses in English for foreigners are given at Columbia University, Harvard, Massachusetts Institute of Technology, the Universities of Michigan and Pennsylvania, and probably others. There is great need, however, for a special summer course in English in at least one educational center. Clubhouses or social centers for foreign students have been provided at many of the leading universities, such as Pennsylvania, Illinois, Cornell, and Syracuse, while a large clubhouse is planned for Columbia University. There are foyers for foreign women students at Columbia, Chicago, and Berkeley, California.

The differences between the educational systems of the United States and most of the Latin American countries have complicated the question of admission requirements, but most of the colleges and universities have shown a generous spirit in accepting credentials. A committee of the American Council on Education, in cooperation with the educational section of the Pan American Union, is now working out some recommendations for uniform rating of Latin American certificates, which it is hoped will help to solve the problem.

Some of the finest and most deserving of the young people who come from the sister American republics have not financial resources sufficient to meet their expenses here. Were the foreign student influx limited only to those of wealth, it is obvious that much that is best in the interchange of ideas would be lost. Consequently, an increasing number of educational institutions where tuition is regularly charged have offered free instruction, sometimes merely as an expression of international friendship and hospitality, but generally restricted to such students as need financial aid. At the present time the following are known by the Pan American Union to make such offers for from one to an unlimited number of students:

University of Arizona; Hendrix College in Arkansas; in California, College of the Pacific and University of Southern California; Colorado School of Mines; in Connecticut, Yale and Wesleyan Universities; Catholic University of America, Washington, D. C.; Universities of Florida; in Illinois, the State Normal Universities at Normal and Carbondale, University of Chicago, Lombard College, North-Western College and Wheaton College; Indiana and Notre Dame Universities in Indiana; Iowa State College and Grinnell College in Iowa; Johns Hopkins University and St. John's College in Maryland; Clark University and Mount Holyoke College in Massachusetts; Central Michigan Normal School; in Minnesota, the State Normal School at Duluth, Carlton College, Hamline University, and Macalester College; in Missouri, the State University, Southeast Missouri State Teachers

College, Central College and William Jewell College; New Hampshire College of Agriculture and Dartmouth College; Rutgers College in New Jersey; in New York, the State Normal School at Fredonia, Hamilton College and New York University; Elon College in North Carolina; in Ohio, Municipal University of Akron, Denison, Miami and Ohio Wesleyan Universities, Kenyon and Mount Union Colleges; University of Oklahoma and State Agricultural and Mechanical College; Temple University in Pennsylvania; Winthrop Normal and Industrial College in South Carolina; Northern Normal and Industrial School in South Dakota; Middlebury College in Vermont; Virginia Polytechnic Institute, Roanoke College and Washington and Lee University in Virginia; West Virginia University; in Wisconsin, the State University, the Normal School at Whitewater, Lawrence and Milton Colleges. In addition, the following institutions offer special scholarships covering tuition and part of the living expenses; Frances Shimer School in Illinois, Harvard University, Smith College and Wellesley College in Massachusetts, Vassar College in New York, Oxford College for Women in Ohio and King College in Tennessee, while the Association of Collegiate Alumnae offers a fellowship of \$750 to a woman student doing graduate work. A great many other colleges and universities which do not make a general offer, give scholarships in special cases.

To further assist students who are largely dependent on their own resources, several normal schools and other institutions offer them work of various kinds by which they can earn enough to help defray their expenses. The teaching of Spanish is one of the means commonly employed, and Vassar College, recognizing that foreign students bring qualities of distinct advantage, has adopted a plan of student assistantships by which one or two Spanish-speaking young women who are especially well qualified conduct small conversation classes, without having to give any time to preparation, receiving in return free tuition, room and board.

The proximity of Mexico and the importance of business and commercial relations with that Republic have naturally caused Mexican students to come to the United States in large numbers, and much interest has been aroused in aiding those who need assistance, as a means both of furthering mutual understanding and friendship and of increasing trade between the two countries. Following the efforts of one or two other organizations in the past, the Pan American Union has been informed that the American Chamber of Commerce of Mexico, on the suggestion of Mr. Will A. Peairs of Des Moines, Iowa, has launched a plan which bids fair to have far-reaching results. A committee of the chamber of commerce is actively soliciting from American colleges, universities, and technical schools offers of free tuition for Mexican students, and from business houses, part time employment to familiarize the young men with American methods

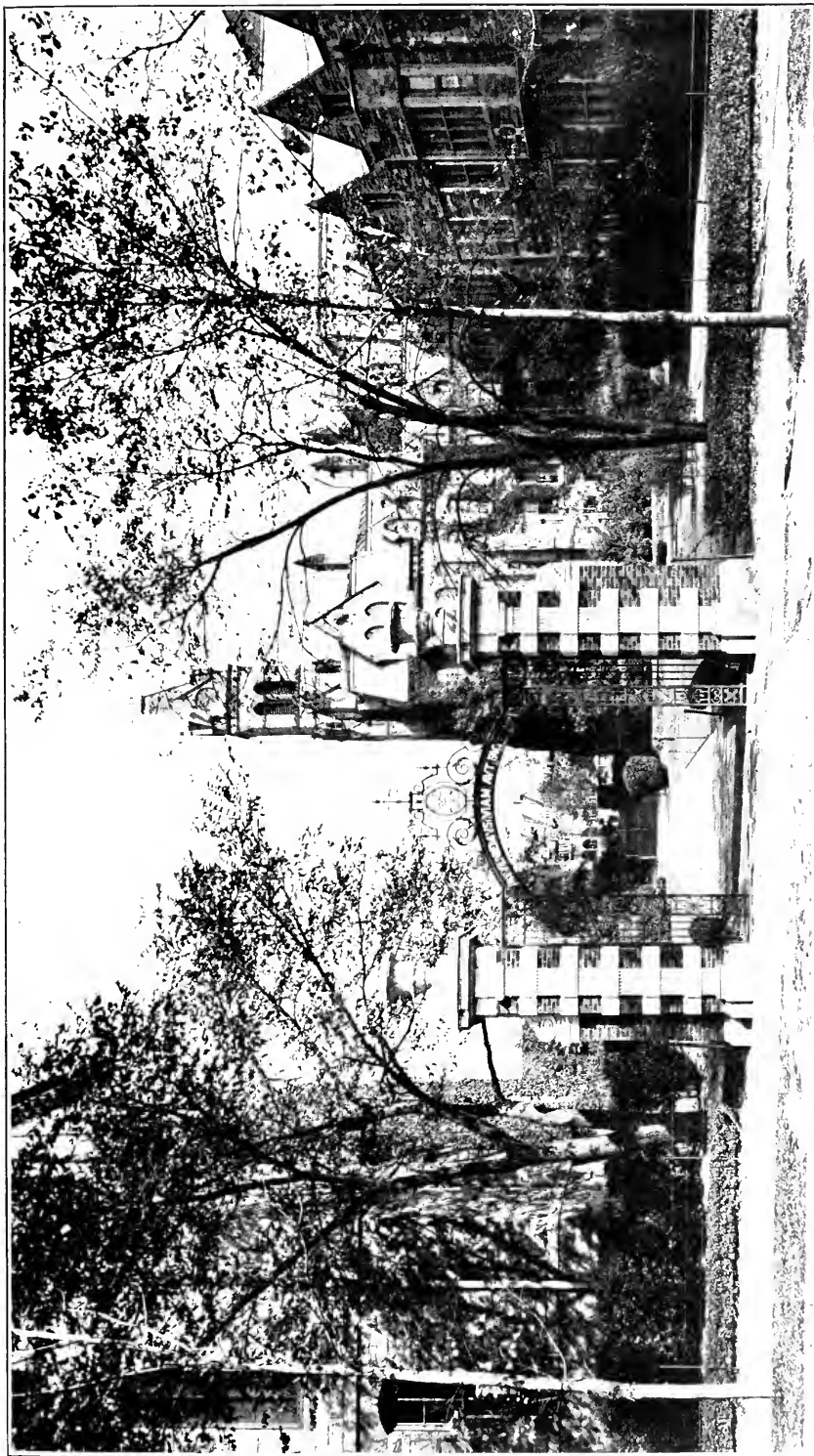
in business, manufacturing, etc., so that they may later act as agents for these concerns or otherwise create a demand for their products. The following institutions, aside from those mentioned above, are announced as having offered free tuition to one or more students, and the list is continually growing.

University of Alabama; Colorado College and University of Denver; Northwestern University in Illinois; DePauw University in Indiana; State Teachers' College, Drake University, and Ellsworth College, in Iowa; Lexington University in Kentucky; Bowdoin College in Maine; University of Minnesota; Washington University in Missouri; University of Nebraska; University of Nevada; Bryant and Stratton Business College in Buffalo, N. Y.; Oberlin College and College of Wooster, in Ohio; Willamette University in Oregon; Haverford College in Pennsylvania; Brown University in Rhode Island; University of Texas (six scholarships of \$600 each); Randolph-Macon College in Virginia; Beloit College in Wisconsin. The following business houses are also cooperating: Chamberlain Medicine Co., Waterbury Chemical Co., and E. T. Meredith, publisher Successful Farming, of Des Moines, Iowa, and Dy-O-La Dye Co., of Burlington, Vt.

The plan has met with a cordial response in Mexico, and an attempt is now being made to start there a school to give intensive training in English to the candidates selected by the American Chamber of Commerce.

Some other agencies have likewise agitated the subject of special scholarships for Mexican students, as a result of which the University of Pennsylvania has established four such, the American University, Washington, D. C., offers two, and other institutions have the matter under consideration. The Bureau of Commercial Economics at Washington, through the dean, Miss Boggs, has rendered valuable services in helping to obtain special concessions for Mexican students.

The experiment of international educational cooperation on a large scale now being tried by the American Chamber of Commerce of Mexico will be watched with the greatest interest, and it is to be hoped that there will be an increasing return current of American students going to Mexico and other Latin American countries to complete their education and help break down the barriers of unfamiliarity and distrust. The intellectual attainments, high ideals, and intense patriotism of many of the Latin American students who have spent a few years in the United States have made a profound impression on their teachers and fellow-students, giving them a new and truer idea of the character of the Latin American peoples, and these young people in turn have gone back to their homes inspired by a deep and abiding friendship for the United States and her people. The student of to-day is the leader of to-morrow; let us see, then, that we regard these young people in our midst as truly guests of the Nation.



ENTRANCE OF THE UNIVERSITY OF PENNSYLVANIA.

The University of Pennsylvania offers special courses in English for students from Latin America. Besides its departments of secondary and higher instruction for the study of sciences and letters, there are special departments of biology, music, architecture, engineering (in all of its branches), political economy, law, medicine, dentistry, and veterinary medicine. The university has 1,600 professors and 11,500 students, of which 100 are from Latin American countries. Its school of medicine is the oldest and one of the best endowed in the United States. The hospital of the university, which has 100 beds, offers great opportunities to the student's through its clinic. Special courses in public hygiene are given. The school of political science, dentistry, and of veterinary medicine are notable, and offer splendid opportunities to the students.

INSTALLATION OF SECRETARY HUGHES ∴ ∴

THE following is the text of the greeting of the Chilean ambassador, on behalf of the Governing Board of the Pan-American Union, and the reply of the Secretary of State thereto, at the meeting of the Governing Board of the Pan-American Union on April 6, at which the Secretary of State, who is chairman ex officio of the board, appeared for the first time.

The Chilean ambassador said:

MR. SECRETARY:

It is my pleasant duty to tender to you, in the name of my distinguished colleagues, a most cordial welcome on this the first occasion at which you come to preside over our sessions.

We greatly esteem the honor and felicitate ourselves upon the valued aid and support you will bring to us. It is indeed a high honor to be associated with a personality such as your own, which has merited at the hands of your fellow citizens, in an act of transcendental importance in the political life of your great country, the high distinction of their confidence.

Our confidence must of necessity be inspired by association with an eminent magistrate, whose judgment has long been exercised with conspicuous ability in the delicate application of the principle—the very cornerstone of law—that “to each shall be given that which is his.”

No people can claim more than that; none can exact less than that, because it is solely under the protection of justice that individuals as well as nations may pursue the normal course of their lives.

Thus, Mr. Secretary, you are doubly welcome and we assure you, on our part, that you will find here the freest cooperation and an atmosphere of harmony which is traditional with us, in accordance with the purposes and spirit of the institution.

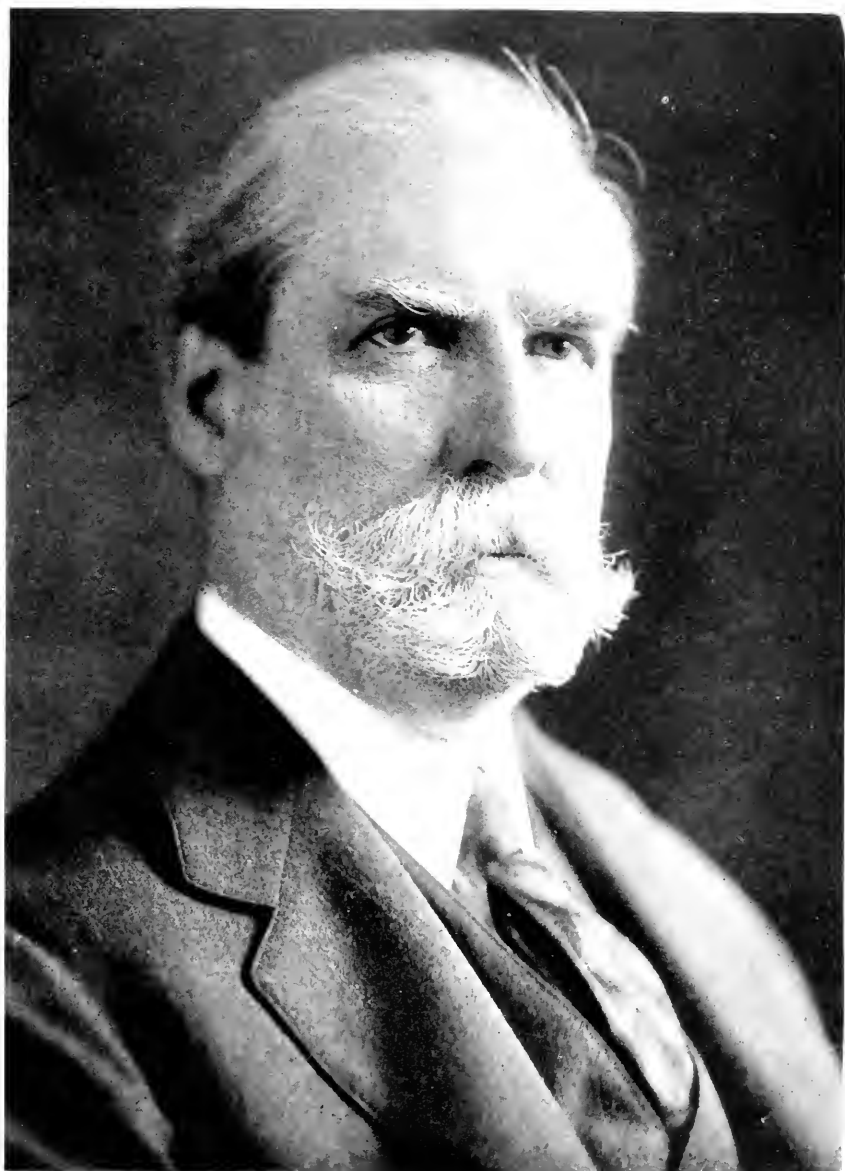
The response of the Secretary of State was as follows:

MR. AMBASSADOR:

I appreciate most deeply the generous words of your greeting. It is a high privilege, gentlemen, to be associated with you in the governing body of the Pan American Union, and I look forward with the happiest anticipations to our cooperation in this important work. I am grateful for the opportunity which comes to me ex officio for a more intimate association with those whom I hold in the highest esteem, and I am keenly sensible of the duty, with which we are charged, to give expression to the sentiments of mutual friendship which indissolubly bind together the peoples of our respective countries.

This organization is the symbol of Pan American unity. It rests upon that which is more enduring than pacts or conventions, or any formal documents—that is, upon the assurance of community of ideals and purposes.

It is a unity in diversity. We have our separate characteristics, our distinct problems, our individual points of view. Our unity does not rest upon uniformity. But that which unites our peoples is far more significant than any points of difference.



Photograph by Harris & Ewing.

HON. CHARLES EVANS HUGHES, SECRETARY OF STATE OF THE UNITED STATES.
Chairman ex officio of the Governing Board of the Pan American Union.

We are united in our regard for republican institutions—the maintenance of the will of the people constitutionally expressed through the organs of self-government and under safeguards which are designed to assure the stability which alone can make prosperity possible and give play to all appropriate national aspirations.

We are united in our appreciation of the interests which are peculiar to this hemisphere, in our realization of the importance of immunity from any influences that might be hostile to the perpetuity of the institutions which have been here set up in the interest of political liberty. We are united in our desire to maintain peace—that peace which finds its assurance in the national self respect by which each people safeguards its own rights in frank recognition of the rights of others, and in the endeavor to resolve all differences of view by friendly resort to the processes of reason. We know that there is no other assurance of peace than the love of justice.

We realize the need of a more intimate understanding, of a more accurate interpretation of each to the other. We are grateful for the opportunity which the Pan American Union affords in this endeavor. I congratulate you most heartily upon what has already been achieved and I enter into this association with you confident that our labors can not fail to bring our people closer together and to promote a prosperity in which all shall have an equal share.

DEATH OF DR. ALBERTO MEMBREÑO

THE BULLETIN announces with regret the death of Dr. Alberto Membreño, which occurred in Tegucigalpa, Honduras, February 2, 1921. Dr. Membreño was a distinguished Honduran citizen, a learned philologist, a notable jurist, and an eminent diplomat. The list of his services is long and meritorious. In his judicial career he held the offices from justice of the peace to magistrate of the supreme court of justice; as an administrator he was successively chief clerk, undersecretary, and finally minister at different times of promotion, public works, justice, public instruction, and foreign relations, vice president and president of Honduras. He was a representative in congress and envoy extraordinary and minister plenipotentiary from Honduras, successively, to Spain, Mexico, and the United States. His suggestions made in the Governing Board of the Pan American Union were always heard with respect, and in the missions which he had to perform his acts were invariably inspired by the highest ideal of Pan Americanism. As the proof of his erudition there remain his works on judicial themes, engineering, philology, and botany, which brought him the highest distinctions. THE BULLETIN OF THE PAN AMERICAN UNION shares the mourning of Honduras and regrets the loss to Latin American letters of the distinguished Honduran statesman.



Photograph by HARRIS & Ewing

SEÑOR DR. ALBERTO MEMBREÑO

Formerly envoy extraordinary and minister plenipotentiary of Honduras to the United States. Died in Tegucigalpa, February 2, 1921

AGRICULTURE, INDUSTRY AND COMMERCE

ARGENTINA.

DAIRY INDUSTRY.—The development of the dairy industry in Argentina in recent years is well reflected in the published statistics of 1920, as pointed out by the Argentine embassy in Washington in a recent newspaper interview. Of the 32,000,000 head of cattle in the country 3,000,000 are dairy cows. The increase in the dairying of the country shows in the figures of dairy products for the first nine months of 1920 of 20,939 tons of butter, 21,770 tons of cheese, and 10,708 tons of casein as against 9,307 tons of butter and 5,413 tons of cheese in 1914. Argentina is taking great interest in the raising of pure-bred cattle, and has imported hundreds of blooded sires and heifers. To encourage the dairy industry, the Sociedad Rural of Buenos Aires is organizing an international exposition of dairy breeds of cattle and the machinery and products of model dairying.

ARGENTINE AGRICULTURE.—The principal agricultural products of Argentine, as shown in the statistics of 1919, are: Alfalfa, 8,052,805 hectares; wheat, 7,234,000 hectares; maize, 3,527,000 hectares; flax, 1,308,600 hectares, and oats 1,295,000 hectares.

COMESTIBLE OIL INDUSTRY.—The manufacturing of comestible oils has greatly increased in Argentina since 1916, causing considerable reduction in the imports of such oils. In 1914 edible-oil imports amounted to 26,951,741 kilos and the production to 4,116,000 kilos. In 1915 edible-oil imports amounted to 29,247,307 kilos; 1916, 21,782,172 kilos; 1917, 13,497,791 kilos; 1918, 8,167,367; 1919 (nine months), 5,440,000 kilos. The latest figures on imports are not statistically registered, but it is known that Argentina, with her raw material, capital, and technical facilities, had an edible-oil production not only sufficient for the country but enough to export, during the three-year period from 1917 to 1920, 286,000 kilos, and also exported a part of the 7,000,000 kilos of the linseed oil produced during the same three-year period.

REORGANIZATION OF NAVIGATION SERVICE.—A law passed by the national congress has authorized the President to rent or requisition the necessary number of boats for passenger and freight transportation service on the Plata, Parana, and Uruguay Rivers and their tributaries. The President will fix the freight and passenger rates and will open a special account of expenditures and revenues, turning the surplus in to the general revenue of the nation.

FOREIGN TRADE.—According to the figures of the department of statistics, the foreign trade of Argentina for 1920 showed the following totals: Imports, 854,100,000 pesos; exports, 1,006,800,000 pesos; balance favorable to the country, 152,700,000 pesos. The figures from the same source for 1919 were as follows: Imports, 665,770,000 pesos; exports, 1,030,960,000 pesos; and balance favorable to the country, 375,190,000 pesos.

EXPORTS OF WOOL AND FLAX.—From January 1 to December 23, 1920, there were exported from Argentina 989,687 tons of flax, against 808,850 tons during the corresponding period of 1919 and 386,989 tons in 1918. The exportation of wool up to December 16, 1920, amounted to 37,375 bales, or less than the exports of 1919 and 1918, which were 89,579 and 58,300 bales, respectively.

MEAT EXPORTS.—During the first 11 months of 1920 Argentina exported 1,620,641 frozen calves, as against 1,972,712 in the corresponding period of 1919; 5,334,822 quarters of frozen beef, as against 5,813,492 in 1919; and 625,955 quarters of chilled beef, as against 78,884 during like period of 1919.

EXPORTS OF WHEAT AND MAIZE.—Up to December 16, 1920, Argentina had exported 5,029,958 tons of wheat, against 3,060,769 tons during the corresponding period of 1919, showing an important increase for 1920. Exports of maize up to December 16, 1920, amounted to 4,172,345 tons, as against 2,305,403 tons on the same date 1919, with an increase in exportation for 1920 corresponding to that of wheat.

BOLIVIA.

COMPANÍA HUANCHACA OF BOLIVIA.—The Huanchaca Mining Co. has raised its production from 700 metric tons a month in 1918 to 1,100 metric tons monthly at present. Pumps are to be installed, but before all the water has been removed the company will go to work on bridges which are in reach, in spite of the flooded condition of the mine.

COMPANÍA OPLOCA.—From the memorandum of the Oploca Co., covering the economic year from June 30, 1919, to June 30, 1920, the following facts were taken: The production 24,518 tons of ore or 2,800 tons less than the production of the previous year. The cost of exploitation was 16.17 bolivianos per ton, this, with the cost of preparation, amounted in all to 19.80 bolivianos per ton. The silver ore taken out amounted to 44,700 quintals. The production of barilla tin was 50,600 quintals, averaging 59.5 per cent pure. The production of silver amounted to 1,155.45 kilos of sulphides, averaging 51.18 per cent of silver, or 591.20 kilos of fine silver, and also 1,760 quintals of ore for exportation. The year's profit amounted to £71,769 sterling.

BRAZIL.

IMPORTS OF AUTOMOBILES.—The Brazilian Association of Automobilists has published data showing that the number of automobiles imported into the Republic from January, 1907, to June 30, 1920, was 24,475, valued at 24,723,430 milreis. The principal importing centers were the State of Sao Paulo, the Federal District, and the State of Rio Grande do Sul. During the period referred to the United States furnished 15,109 of these automobiles, and France 3,018. The imports of automobiles increased from 366 in 1907 to 4,537 in 1919, and 5,082 from January 1 to June 30, 1920.

COTTON GIN, COMPRESS AND COTTONSEED OIL FACTORY.—The Government has authorized the Industrial Transportation Co. of Pirapora to establish a cotton gin, compress, and cottonseed oil plant in the State of Minas Geraes.

RAILWAY.—The Federal Government has contracted with the Great Western Railway Co. of Brazil to extend the Central Railway of Pernambuco from Rio Branco to Petrolina, and to build a branch line from Limoeiro or Lagoa do Carro to Bom Jardim.

NARROW-GAUGE RAILWAY.—The legislature of the State of Matto Grosso has authorized Dr. Oscar Moreira, or his assigns, to build a narrow-gauge railway from a convenient point on the Northeastern Railway of Brazil to Cuiaba.

SUGAR REFINERIES.—The State of Rio Grande do Sul has exempted from State taxes, for a period of 10 years, sugar refineries established in that Commonwealth.

MANGANESE DEPOSIT.—A Noite states that the large manganese deposit of Morro de Mina at Queluz, State of Minas Geraes, is soon to be sold to a North American syndicate.

ELECTRIFICATION OF CENTRAL RAILWAY.—Steps have been taken for the electrification of 22 kilometers of double-track road of the Central Railway of Brazil from Rio de Janeiro to Deodoro. Later electric traction is to be used on this road as far as Barra do Pirahy.

RAILWAYS IN MINAS GERAES.—In the State of Minas Geraes there are now in operation 12 railway lines, with a total length of 6,706 kilometers.

ROADWAY.—A contract has been let for the construction of a roadway from Ararangua, State of Santa Catharina, to the boundary of the State of Rio Grande do Sul.

CHILE.

EXPORTATION OF NITRATE.—During November, 1920, 4,761,842 Spanish quintals (quintal=101 pounds) of nitrate were exported from Chile, almost double the amount exported in the corresponding month of 1919, which was 2,963,461 quintals. From July 1 to No-

vember 30, 1920, the nitrate exports amounted to 23,899,404 quintals, as against 12,849,743 quintals in the corresponding period of 1919 and 25,217,825 in 1918. The exports of 1920 came from the various nitrate sections in the following proportions: Tarapaca, 10,293,993 quintals; Tocopilla, 2,680,800 quintals; Antofagasta, 6,502,009 quintals; Aguas Blancas, 1,636,597 quintals; and from Taltal, 2,786,005.

PRINCIPAL IMPORTS AND EXPORTS.—During October, 1920, the principal imports were: Sugar, 5,218,662 kilograms, worth 1,982,725 pesos gold; gold plate, solid gold, and gold bars, 3,660,000 grams, worth 6,659,871 pesos; paraffin and petroleum for lighting purposes, 3,240,313 kilograms, worth 724,544 pesos; Roman cement, 1,364,007 kilograms, worth 264,241 pesos; unwrought iron, 1,480,550 kilograms, worth 483,792 pesos; empty sacks, 1,260,633 kilograms, worth 1,185,499 pesos; hard coal, 24,671 tons, worth 1,036,662 pesos; and rice, 896,855 kilograms, worth 584,029 pesos. The principal exports were: Copper bars, 6,070,612 kilograms, worth 6,064,530 pesos; nitrate, worth 69,290,000 pesos; frozen meats, 3,242,094 kilograms, worth 1,621,047 pesos; borate of lime, 1,701,000 kilograms, worth 1,889,840 pesos; copper ores, 4,681,740 kilograms, worth 517,414 pesos; wheat, 2,914,612 kilos, worth 952,675 pesos.

PRODUCTION OF TIN.—During November, 1920, the figures of the mines of the *Compañía Estañífera de Llalagua* were as follows: Production, 26,500 quintals; exported, 24,859 quintals; and balance for December, 8,407 quintals.

CEREAL CROP.—The figures collected by the statistical office show that the agricultural year of 1920 is in every respect superior than that of 1919. In 1920 there were 75,000 hectares more land sown in wheat than in 1919; barley increased 70 per cent and oats 50 per cent. The calculated production of the crop gives the following figures: Wheat, 7,214,356 quintals; barley, 1,377,293 quintals; and oats, 839,283 quintals.

IODIZING COPPER CO.—A company known as the *Compañía Yoduradora de Cobre* (iodizing copper company) has been formed in Chile for the purpose of exploiting foreign and domestic patents for the manufacture of sulphuric acid, and to acquire mines and contracts with mining companies in order to obtain pure copper superior to that electrically produced. The new company will have a capital of £200,000 sterling.

CONSTRUCTION OF RAILROADS.—The Government has signed the contract for the construction of a railroad to run from Los Angeles to Santa. The budget for the work, according to the contract, amounts to 2,150,000 pesos currency and 1,286,000 pesos gold.

COLOMBIA.

GASCON CATTLE.—Two Gascon bulls and two heifers have been received by the agricultural farm school at Fontidueño to be used in improving the stock of cattle in Antioquia. This breed of stock comes from Haute Garonne in France, and the breed, even in that country, has been mixed much so that there are not so many examples of pure race, with black muzzles. This breed somewhat resembles the native Colombian stock known as "orejinegra," or white cattle with black ears; but the newly introduced race is much superior to the native stock in size and milk production.

PROPOSED FACTORY FOR FISH PRODUCTS.—An American firm has proposed to establish a factory for food products, especially for preparations of fish.

IRRIGATION FOR THE PLAINS OF TOLIMA.—The Industrial Society Engineers has submitted a proposal to the ministry of agriculture and commerce for plans for the irrigation of 40,000 hectares of land in the plains of Tolima.

EXPLOITATION OF NITRATES.—A concession has been granted for the exploitation of nitrates in the department of Magdalena.

THE COFFEE GROWERS' UNION.—In January the Coffee Growers' Union of Manizales had received 93,000 arrobas of coffee in payment of credits.

FERROCARRIL DE AMAGA.—The Amaga Railroad in the 10-year period from 1911 to 1920, inclusive, carried the following: 7,969,084 passengers; freight, 311,652,528 kilos; animals, 143,758; baggage, 642,520, at a gross profit of 1,562,297 pesos gold.

EXPORTATION OF CATTLE TO CUBA.—About 1,000 beeves were shipped from Covenas to Cuba.

NEW ELECTRIC LIGHT PLANT.—In the city of Buga, department of Valle del Cauca, a new electric light company has been formed.

FACTORY FOR SCARFS.—A factory for scarfs has been established in the municipality of Concepcion, department of Santander. The raw materials used in the scarfs or mufflers are all native of Colombia, the silk being spun, dyed, and woven in the factory.

SYNDICATE OF NEW YORK BANKERS TO AID COLOMBIAN EXPORTERS.—A syndicate composed of the Equitable Trust Co., the National Park Bank, the Chemical Bank, and other New York banks and bankers has been formed to finance coffee shipments by rail, river, or sea. The requirements and rates of issuing drafts will be fixed in each case by the syndicate. The Banco de Colombia has been asked to act as representative of the syndicate in the departments of Cundinamarca and Tolima. The exports will also include hides, rubber, and other articles of native produce, as well

as coffee for shipment to the United States. The Commercial Bank has been asked to act as agent of the syndicate in Antioquia.

HYDROPLANES BROUGHT TO COLOMBIA.—Three hydroplanes for the mining company Chocó Pacifico Andagoya were recently brought to Colombia aboard the steamer *Urubamba*.

FIGURES ON COFFEE.—The following statistics on coffee production were taken from the official organ of the Department of Caldas, bulletin 2, published in December, 1920. Trees bearing, 37,598,483; growing trees, 9,568,955; increase in number of trees from 1915 to 1920, 20,538,964. Hectares planted in coffee, 34,512; trees per hectare, 1,089; pounds of parchment coffee produced per hectare, 1,633½; pounds per tree, 1½; total production of the department, 56,397,724 pounds. Parchment coffee for export in sacks of 62½ kilos, 451,180 pounds; in the bean, 351,920; approximate cost per pound, 0.06 peso; transportation and handling in the bean per pound placed in New York, 0.76 peso. Coffee-cleaning machines in the department, 51.

COSTA RICA.

COAL MINE.—Steps have been taken by an American company to exploit on a large scale an anthracite coal deposit located at the base of Tablazo Mountain, about 15 kilometers from San Jose.

EXPORTS OF COFFEE.—The exports of coffee for the fiscal year 1919–20 aggregated 13,998,150 kilos, as compared with 13,963,473 kilos in 1918–19.

EIGHT-HOUR DAY.—The President has promulgated a law making eight hours the standard working day for artisans and laborers, and 10 hours for clerks, commercial employees, and office workers. Labor performed outside of the prescribed hours is to be paid for at an increase of 25 per cent for the first three hours of excess, and at least 50 per cent for time beyond the three hours mentioned.

PROPOSED RAILWAY CONTRACT.—The official Gazette of December 17, 1920, publishes the tentative contract of the Costa Rican Government for the construction and operation of the Guanacaste Railway. The contract requires the approval of the President.

CULTIVATION OF FIBROUS PLANTS.—The Costa Rican Government has contracted, subject to the approval of congress, with Marcial Peralta Arriola and Carlos Volio Tinoco, for the cultivation of cabuya (henequen) and other fiber plants in the Province of Guanacaste.

PUBLIC ROADS.—A law has been promulgated authorizing the construction of an automobile road between Alajuela and Esparta.

PROPOSED EXPLOITATION OF PETROLEUM.—Recently an American corporation entered into negotiations with the Costa Rican Government for permission to work oil and similar deposits in the Republic in accordance with plans submitted to the national congress.

CUBA.

FREE EXPORTATION OF SUGAR.—The President has issued a decree to reestablish the free exportation of raw, refined, and centrifugal sugar, thereby repealing all previous decrees imposing restrictions upon exportation.

NEW COMPANIES.—Two new companies have been formed in Cuba: one the "Bahía Honda y Baragua Railroad Co.," with \$2,000,000 capital, and the other a stock company known as the "Compañía de Almacenes y Transportes de Santiago de Cuba" (transportation and storage company), with a capital of \$100,000.

SUGAR FACTS.—From the report of the Cuba Cane Sugar Corporation the following data on the sugar industry of Cuba was taken: In the centrals of the western part of the Republic the percentage of sugar paid to the colonists was an average of 6.902 and to those on the centrals of the eastern part of the Republic 5.15. The saccharin content in the cane amounted to 12.95 per cent, and the loss in manufacture was 2.97 per cent; the percentage of 96 grade sugar was 11.02; the average price was 10.345 cents; the cost of production, including the value of the cane, was 8.523 cents. In 1893-94 the sugar production was 1,087,496 tons, of which 974,377 were manufactured by western centrals and 113,119 by eastern centrals; in 1919-20 the crop was 3,748,177 tons of sugar, of which 2,040,633 tons were manufactured by the western centrals and 1,707,544 by the eastern centrals.

TRADE WITH THE UNITED STATES.—In November, 1920, the Cuban trade with the United States amounted to \$74,158,565, of which \$57,079,324 were imports and \$17,079,241 the exports. In the same month of 1919 the trade between Cuba and the United States amounted to \$56,171,723, of which \$28,676,283 were exports and \$27,495,440 imports.

DOMINICAN REPUBLIC.

REDUCTION OF FREIGHTS.—The Bull Insular Line (Inc.), the Clyde Steamship Co., the Columbus Steamship Co., and the New Orleans and South American Steamship Co. have reduced freight rates 10 per cent between Dominican and North American ports on most imports and exports, the exceptions being freights on rice, flour, cement, and beans, on which the rates were reduced December 28, 1920.

LINE OF STEAMERS.—The Atlantic Fruit Co. has recently established a line of steamers running between Dominican and foreign ports, principally to export sugar from the centrals of San Isidro, Consuelo, and Barahona.

SLAUGHTER OF BEEF.—An order of the department of agriculture and immigration has forbidden the slaughter for commercial pur-

poses of any cow or heifer which is fit for breeding, and the killing of such animals shall be done only when necessary to prevent the spread of cattle diseases dangerous to man.

CLASSIFICATION OF TOBACCO.—The Government has issued an executive order regulating the classification of tobacco by producers before its sale. One of the provisions of the order is that tobacco leaves be hung on the frames to dry not less than 40 days in order to be properly cured. When properly dried and cured the tobacco must be sorted into hands and classified by the producer. This done, it must be placed in piles at least 3 feet high and left thus for a period of 30 days.

ECUADOR.

PLATINUM, GOLD, AND SILVER MINES.—Platinum, gold, and silver mines have recently been denounced in the eastern part of the Province of Pichincha in the Pelado and Sarauco Mountains.

SLEEPERS.—The Guayaquil & Quito Railway Co. has purchased 120,000 guayacan (a variety of hardwood) sleepers. These were cut on the banks of the Daule River on lands belonging to the Nato ranch.

WIRELESS.—The wireless station at Esmeraldas has been opened to public traffic. Communication can now be made with the wireless stations at Guayaquil.

ELECTRIC.—The canton of Pueblo Viejo has been authorized to obtain funds for the erection of an electric light and power plant.

NAVIGATION CONTRACTS.—Congress has authorized the president to make contracts exempting steamers from the payment of taxes and other imposts, with the exception of lighthouse, tug, and pilot charges.

BIDS FOR WHARF AND WAREHOUSES.—The Official Register of December 3, 1920, contains specifications for bids for the construction of a wharf and warehouses for customs uses at Guayaquil. The time for filing these bids expired in February last.

AUTOMOBILE ROAD.—Congress has provided for the collection of funds for the building of an automobile road from the national highway in the parish of San Juan to the city of Guaranda in the Province of Chimborazo.

PRECIOUS STONES.—On December 7, 1920, a law was promulgated permitting imports of precious stones free of duty.

HONDURAS.

DISTILLERY.—The Sula Sugar Co., of San Pedro Sula, has purchased the Buezo concession for the establishment of a distillery in the Department of Cortes.

PROPOSED SUGAR REFINERY.—A. Castillo Vega has petitioned the Government for permission to establish a sugar refinery at La Labranza, in the Department of Tegucigalpa.

ELECTRIC LIGHT AND POWER PLANT.—The New York & Honduras Rodario Mining Co. has contracted with the Government of Honduras to bring the water of the La Tigra canyon to the Jutiapa reservoir. This water will be used in operating an electric light and power plant at La Leona, and will also be the source of the portable water supply for the city of Comayagua.

TIMBER CONCESSIONS.—A departmental contract has been made with A. Chubb, of New Orleans, to cut and export mahogany, cedar, and other precious woods within a specified area of the territory to the north of Bruss-Laguna, departments of Colon and Olancho. The concessionaire agrees to cut not less than 25,000 trees within four years from the time the contract is approved by the President of the Republic, and to pay the Government \$20 gold for each mahogany and cedar tree exported.

PROPOSED CIGARETTE FACTORY.—José María Guillón Vélez has petitioned the Government of Honduras for permission to establish a cigarette factory at San Pedro Sula.

POSTAGE STAMPS.—The Department of Finance and Public Credit has authorized the Government Printing Office to lithograph 1,000,000 postage stamps of the denomination of 15 centavos.

MINING COMPANY.—The Government has recognized as a juridic entity the Opeteca Mines Co. and has approved the by-laws of that company.

MEXICO.

NEW VESSELS FOR GULF OF MEXICO TRAFFIC.—The Mexican Navigation Co. has bought two vessels in England to ply between New Orleans and Gulf of Mexico ports. The two steamers now employed in this service are to be transferred to the Pacific for use between Mexican and Central American ports.

PETROLEUM EXPORTS.—During the first 10 months of 1920 the exports of petroleum from Mexico totaled 120,034,948 barrels.

QUININE.—A plant has been discovered in the State of Chiapas which produces a bark having the same properties as that from which quinine is extracted. The Government proposes to cultivate this plant on a large scale.

PETROLEUM.—The newspaper *Excelsior*, of the City of Mexico, states that North American capital to the amount of \$2,000,000 is soon to be invested in Mexico in the exploitation of petroleum. Oil concessions have recently been granted in the States of Nuevo León, Tabasco, Chiapas, Quintana Roo, Veracruz, and other States of the Republic.

ELECTROLYTIC COPPER.—On January 11, 1921, an executive decree was issued prescribing that when the market value of electrolytic copper in New York City falls to 15 cents or less per pound, the export duty in Mexico is to be remitted.

FISH AND OYSTERS.—Large quantities of edible fish and oysters are reported to be obtainable for canning and refrigerating purposes in the lagoons of the State of Tabasco, bordering on the Gulf of Campeche, and especially in the neighborhood of the outlets of the Santa Ana, Dos Bocas, and Chiltepec Rivers. The season for the best varieties is from April to September.

INDUSTRIAL SUBVENTIONS.—The governor of the State of Yucatan has offered subventions for a period of two years to the first factories which are established in that Commonwealth for the manufacture of paper and other new products from native henequen.

CACAO.—The estimated production of cacao in the State of Tabasco in 1920 is 3,300,000 pounds. Indications promise a yield in 1921 equally large.

PORT IMPROVEMENTS.—A contract has been let to an American firm for improvements at the port of Manzanillo.

PROPOSED MANUFACTURES OF CHEMICALS.—Steps have been taken for the establishment of factories for the manufacture of chemicals along the drained and reclaimed banks of Lake Texcoco. Large quantities of valuable salts exist in the bed of this lake, and it is proposed to utilize them for commercial purposes.

AGRICULTURAL COLONIES.—The success of the agricultural colony founded near Tula, State of Tamaulipas, has been such as to induce the Government to establish, under the management of Gen. Carrera, five additional colonies in the District of Tula, in the same State, and five in the adjoining State of Nuevo Leon.

GUANO.—Permission has been granted to Luis M. Salazar and Enrique Munguia for the exploitation of guano in a number of islands off the western coast of Lower California.

WOODS, GUMS, AND RESINS.—A concession has been granted to Rodolfo Charles for the exploitation of woods, gums, and resins in the Territory of Quintana Roo. A similar concession has been granted to Messrs Figueroa and Salazar for the exploitation of these products in the State of Chiapas.

PANAMA.

REDUCED TELEGRAPH RATES.—Decree 165 of 1920 (Oct. 27) provides that telegrams for doctors relating to professional matters and replies to such telegrams shall be sent over the Government lines at half rates, provided such telegrams are sent in the Spanish language.

CHANGES IN THE MAIL-SERVICE CONTRACT.—Changes have been made in the contract for the mail service through parts of the Provinces of Coele and Veraguas. Mail will hereafter be delivered from Santiago to the following towns or districts of Veraguas: Cañazas, Calobre, Montijo and Punto Mutis, Sona, Las Palmas, San Francisco, Santa

Fe, Rio Jesus, La Mesa, Atalaya, and Ponunga, and weekly mails direct from Aguadulce to Santiago to be sent to the towns of San Francisco and Santa Fe. The concessionaire will receive \$300 a month for this service.

BIDS CALLED FOR ON THE BUILDING OF THE NATIONAL ROADS.—Sealed bids have been called for by the office of the Junta Central de Caminos, to be received up to February 18, 1921, for surveying, plans, and construction of the national roads in sections A and B. The consuls of Panama in foreign countries will have charge of receiving the bids of foreign contractors.

PARAGUAY.

SUBSIDIZING THE STOCK-RAISING SOCIETY.—The draft of a law has been presented to the chamber of senators appropriating a monthly subsidy of 10,000 pesos for the stock-raising society to be utilized in the annual fair expositions.

STEAMER SERVICE.—A steamer passenger service has been inaugurated by Paraguayan interests. The vessel, *Cuyaba*, manned by a crew from the Naval Federation of Paraguay, will make fortnightly trips, carrying passengers and freight between Asuncion and Buenos Aires.

PUBLIC HEALTH WORKS.—In Asuncion the draft of a law has been published for the letting of contracts for the 31 public health works to be undertaken in the capital of Paraguay.

PERU.

SUGAR FACTS.—The section of agricultural statistics has published the following facts concerning the sugar industry of Peru in 1918: The total area of sugar haciendas was 250,480 hectares, or 22,535 hectares more than in 1917. The total area sown in cane was 49,804 hectares, as against 45,328 hectares in 1917. The sugar production amounted to 287,480 tons (metric), or 34,304 tons more than in 1917. The average production was 11.6 tons of sugar per hectare sown in cane, while that of 1917 was 11.9 tons. In 1918 the area of cane fields cut amounted to 24,335 hectares, as against 20,895 hectares in the previous year. The area of cut cane for 1918 represents 48.48 per cent of the area sown and the area of cut cane for 1917, 46.10 per cent of the area sown. The 1918 production of cane per hectare was 107 tons, against 105 in 1917. In 1918 the polarizations were 99.22 for the white sugar, 96.55 for the granulated, and 86.15 for the unrefined; the figures for 1917 on the same grades, respectively, being 99.46, 96.72, and 86.37. The internal consumption of sugar amounted to 37,925 tons in 1918, against 35,606 in 1917. The exportation was 197,985 tons, or 14,954 tons less than in 1917. The production in 1918 was distributed as follows: Costal region, 283,190

tons of sugar and 5,830,349 liters of alcohol; mountainous region (La Sierra), 4,290 tons of sugar and 1,253,045 liters of alcohol; other regions, 55,161 liters of alcohol.

MOVEMENT OF CEREALS.—In November, 1920, the movement of cereals in the storehouses of the *Compañía Administradora de los Almacenes Fiscales* (Administrative Company of Government Warehouses) was as follows: Supplies on hand November 1—Wheat, 17,670 kilos; rice, 394,128 kilos; sugar, 19,200 kilos; vegetables, 80,467 kilos; and other cereals, 386,956 kilos. Received during the month—Wheat, 5,104,474 kilos; rice, 548,421 kilos; sugar, 290 kilos; vegetables, 20,910; and other cereals, 514,654 kilos. Sent out during the month—Wheat, 5,092,664 kilos, leaving a stock of 29,480 kilos for December; rice, 273,824 kilos, leaving a stock of 668,725 kilos for December; sugar, 19,490 kilos, leaving no stock on hand toward the next month; vegetables, 8,670 kilos, leaving 92,707 kilos on hand for December; other cereals 283,360 kilos, leaving a stock of 619,250 kilos for December.

NEW RAILROAD BRANCH LINES.—Congress has passed a law authorizing the President to accept the bid of Señor Victor Larco Herrero to construct at his own expense the railroad branch lines between Cepeda and Ascope, and from Chochope to San Pedro.

SALVADOR.

PROHIBITED IMPORTS.—An executive decree has been issued prohibiting on and after January 1, 1921, the importation of the following articles: Passenger automobiles, bicycles; boots and shoes; beer; motorcycles; wooden, wicker, cane, and rattan furniture; trimmed hats for women and children; silk; manufactured tobacco; champagne and other sparkling wines. This prohibition, which does not affect articles covered by existing commercial treaties between Salvador and other countries, is intended to prevent the use of luxuries.

COMMERCIAL TRAVELERS' CONVENTION.—Cable reports state that the commercial travelers' convention between Salvador and the United States has been signed by the representatives of these two countries.

URUGUAY.

EXPORT TRADE.—From January to September, 1920, the principal exports from Uruguay were: Live stock, worth 996,991 pesos, as against 1,035,237 pesos in the corresponding period of 1919; meats and meat extracts, 20,675,136 pesos, against 35,996,234 pesos in 1919; fats, 1,639,450 pesos, as against 5,703,124 pesos in 1919; wools, 26,669,385 pesos, as against 43,170,879 pesos in 1919; hides, 11,764,662 pesos, against 19,410,138 pesos in 1919, and agricultural products 1,058,752 pesos, against 2,221,134 pesos in 1919.

EXPORTATION OF CEREALS.—From July 1 to November 30, 1920, there were exported through the port of Montevideo 244,420 kilos of flour, 30,100 kilos of maize, and 200 kilos of barley.

URUGUAYAN NAVIGATION CO.—Sir Owen Phillips, president of the Argentine Navigation Co., in an address delivered in London, made the following statement regarding the Uruguayan Navigation Co.: "In view of our considerable interest in the river and coastwise shipping of Uruguay, and our possession of a shipyard and shops in Marmelo and Salto, in the Republic of Uruguay, the board of directors have decided to form the Uruguayan Navigation Co. (Compañía Uruguaya de Navegación) under the Uruguayan laws, with a capital of 10,000,000 pesos, and to transfer to the new company the vessels which now, under the Argentine company, carry the Uruguayan flag, and also the shops and shipyards mentioned."

NATIONAL COASTWISE SERVICE.—A decree has been issued which declares canceled all permits issued to ships flying a foreign flag to run a coastwise route which is reserved by the foregoing laws for vessels of the national marine. The decree became effective on January 1 of the present year, and, notwithstanding the severe protectionist policy for the national merchant marine, it is understood that if a foreign vessel solicits for special reasons authorization for coastwise service between Uruguayan ports it may be granted after consideration of the reasons given for the solicitation.

RESUMPTION OF NAVIGATION SERVICE.—The Hamburg South American Steamship Line has decided to renew passenger service between Hamburg and the port of the Rio de la Plata. The steamer *Argentina* reopened the service, sailing from Hamburg for Buenos Aires and Montevideo.

VENEZUELA.

AGRICULTURAL CONGRESS.—A congress of agriculturists, stockmen, manufacturers, and merchants met in the city of Maracay from January 15 to 24, 1921. The president of the congress was J. de D. Mendez y Mendoza.

EXPOSITION.—The Fourth Regional Exhibition of Zulia was opened in Maracaibo on December 19, 1920. Exhibits of the agricultural, stock, and industrial products of western Venezuela were made.

CONSUL GENERAL.—Dr. Fernando Díaz Paul has been appointed consul general of Venezuela in Panama, with headquarters at Colon.

AUTOMOBILE ROAD.—A new section of the automobile road from Barquisimeto to Quibor has recently been opened to public traffic.

DISINFECTING STATION.—A disinfecting station, equipped in the most up-to-date manner, was installed by the health department in Caracas in a building especially erected for that purpose.

ECONOMIC AND FINANCIAL AFFAIRS

ARGENTINA.

FINANCES OF ARGENTINA.—The following figures were collected by an Argentine banker, showing the finances of the Argentine Republic for the economic year 1918–19: Assets, real value of the products exported, 900,150,000 pesos gold; bond issues of enterprises established in the State, 2,300,000 pesos; new foreign capital invested in the State, 19,600,000 pesos; sale of steamers to foreign companies, 1,600,000 pesos; amortization of the debts of the Governments of France and Great Britain, 57,400,000 pesos; interests of the loans to the aforementioned Governments, 7,300,000 pesos; interests paid in to the country on foreign bonds, 1,100,000 pesos; income from travelers, commercial agents, etc., in Argentina, 4,200,000 pesos; total assets, 993,650,000 pesos. Liabilities: Value of the imports, 599,350,000 pesos gold; payments on the public foreign indebtedness, 44,390,000 pesos; payments on mortgage bonds held abroad, 5,000,000 pesos; interests on mortgages held by foreign capital, 20,100,000 pesos; dividends and interests and debentures paid by foreign railroad companies established in the country, 44,600,000 pesos; revenue of other foreign capital, 43,210,000 pesos; foreigners' savings, 49,200,000 pesos; expenditures of Argentina abroad, 20,000,000 pesos; quotas from belligerent subjects for the Red Cross and other patriotic purposes, 1,500,000 pesos; sums sent to Belgium, Germany, and Austria-Hungary, 15,000,000 pesos; total liabilities, 842,350,000 pesos. Comparison of the assets and liabilities of this statement of Argentine finances shows a balance favorable to the country of 151,300,000 pesos gold.

FRENCH LOAN.—It is reported that the Government has granted a year's time to the French Government in which to pay the 17,000,000 pesos balance on the 100,000,000 loan made by Argentina to France in 1919.

PUBLIC WORKS.—A presidential decree appropriated a credit of 5,090,000 pesos to cover the expenditures for various public works as follows: 2,500,000 pesos for dredging and channel marking with buoys of the Plata, Parana, and Uruguay Rivers; 330,000 pesos for various port work in these rivers; 1,500,000 pesos for the work to be done in the Mar del Plata; and 760,000 pesos for sanitation work, and the repairs and preservation of Government buildings, and various lesser expenses.

MORTGAGES.—Between January and September, 1920, mortgages to the amount of 65,130,000 pesos were contracted and mortgages to the amount of 97,160,000 pesos were canceled thus showing an improvement of 10,400,000 pesos in the financial status of the country as the cancelations exceeded the mortgages contracted by the latter sum.

STATE OF THE BANKS.—At the end of November of 1920, the general statement of the banks was as follows: Banco de la Nacion; deposits, 1,412,960,000 pesos; loans 779,260,000 pesos; and on hand, 498,570,000 pesos against 1,215,140,000 pesos, 648,210,000 pesos, and 357,550,000 pesos, respectively, on the same date in 1919. The other national banks had on deposit, 1,197,310,000 pesos; 1,093,010,000 pesos and on hand, 296,750,000 pesos, against 1,023,290,000 pesos, 893,690,000 pesos, and 288,230,000 pesos, respectively, in 1919. The foreign banks had on deposit, 898,090,000 pesos; in loans, 636,340,000 pesos; and on hand, 376,750,000 pesos, against 755,820,000 pesos, 555,880,000 pesos, and 279,950,000 pesos, respectively, in 1919. The total deposits of the banks was 3,508,360,000 pesos; loans, 2,508,610,000 pesos, and on hand, 1,172,200,000 pesos.

FINANCIAL STATUS OF THE PROVINCE OF SALTA.—The following figures on the financial status of the Province of Salta were taken from the message of the governor: In the economic year of 1919–20 the administration was satisfactory—all obligations being covered to the day. The financial situation was very good. The industries have developed slowly but surely. The collections from taxes have increased from articles of consumption, transference of hides, and inheritance taxes. The total revenue from taxes amounted to 1,933,098 pesos as against 1,916,845 pesos in the previous year. The public debt of the Province on May 26, 1920, was as follows: Loan of the Banco Francés del Rio de la Plata, 340,138 pesos; loan of the Banco Provincial de Salta, 397,901 pesos; emissions of the obligations of the Province, 360,000 pesos; and bonds of the consolidated debt, 132,800 pesos, making a total of 1,230,839 pesos.

CHILE.

LOAN.—The municipality of Angol has been authorized to contract a loan of 400,000 pesos at not more than 10 per cent for a term of 15 years. This sum will be expended in the construction of a market and slaughterhouse, city bridges, a building for the health office, and city improvements.

FIDUCIARY CURRENCY.—On October 31, 1920, the total fiduciary currency in circulation amounted to 273,820,972 pesos. This sum was distributed thus: Bills, the balance of old emissions, 853,119 pesos; new issue backed by the gold of the conversion fund, 150,000,000 pesos; emergency emission backed by banks and private

persons with gold coin, 44,001,353; total in bills, 194,854,472 pesos. Treasury certificates to banks with guarantees in bonds, 16,857,500 pesos, and treasury certificates to nitrate companies with a nitrate guarantee, 62,109,000 pesos.

INCREASE OF INDUSTRIAL CAPITAL.—The Government has authorized the increase of capital of the following companies: *Compañía Carbonífera* (coal) de Máfil to 5,000,000 pesos; *Electric Light Co.* of Concepción, to 1,400,000 pesos; *Stockraising Co.* of Laguna Blanca, £230,000; *Banco de Curicó*, to 4,000,000 pesos; *Tattersall Co.*, to 1,000,000 pesos; and the *Stockraising Co.* of Gente Grande to £400,000.

PROFITS OF INSURANCE COMPANIES.—During the first six months of 1920 the *Compañía de Seguros Hispano Americana* (Spanish-American Insurance Co.) made a net profit of 68,467 pesos. Its funds at the beginning of the second six months were: Paid-up capital, 300,000 pesos; reserve funds, 150,000 pesos; fund for future dividends, 14,788 pesos; total, 464,788 pesos. The *Compañía Fénix Chilena* made a net profit of 37,563 pesos, and its funds were: Paid-up capital, 200,000 pesos; reserve fund, 17,500 pesos; reinsurances, 31,000 pesos; fluctuations of exchange, 19,000 pesos; emergency fund, 20,000 pesos; reserve fund for business in hand, 64,080 pesos; and for future dividends, 10,837 pesos; total, 362,417 pesos. The *Compañía Benefactora* made a net profit of 30,617 pesos, and its funds were: Paid-up capital, 200,000 pesos; reserve fund, 77,000 pesos; responsibility of the stockholders, 77,000 pesos; reinsurances, 55,000 pesos; and future dividends, 10,000 pesos; total, 419,000 pesos.

COLOMBIA.

CREDIT FOR BUENAVENTURA.—The Colombian Congress approved a credit of 300,000 pesos for the building of a customhouse in the port of Buenaventura. Port works are also to be undertaken in Pasto, capital of the Department of Nariño, an American firm having signed a contract with the municipality to dredge the bay and build a dock and the necessary works for 1,700,000 pesos gold.

APPROPRIATION FOR SANITATION IN CITIES.—The Colombian Congress has approved a credit of 300,000 pesos for sanitation in the cities of Barranquilla, Cartagena, and Buenaventura in the budget of the present year. The sum to be expended in Barranquilla and Cartagena is 200,000 pesos each, and 100,000 pesos are to be spent in Buenaventura.

BUDGET OF DEPARTMENT OF SANTANDER DEL SUR.—The budget of revenues and expenditures of the Department of Santander del Sur were calculated at 759,620 pesos gold.

NEW JOINT BANK.—The Banco Durand and the Crédito Mercantil established in Barranquilla are about to found a joint banking house, with a capital of 6,000,000 pesos gold.

LOAN FOR DEPARTMENT OF VALLE DEL CAUCA.—The Colombian Government has authorized the Department of Valle del Cauca to contract a loan of 3,000,000 pesos gold to cancel the debt to Amsinck & Co., the remainder, after the payment of the debt, to be used for departmental public works, chiefly school buildings.

MINTING OF SILVER COINS.—The Colombian Congress has passed a law authorizing the President to order the coining of 4,000,000 pesos in silver coins, of 50, 20, and 10 centavos, in the mint of Bogotá or in mints outside the country.

BUDGET FOR 1921.—The budget presented to Congress shows the estimated revenues of the Nation to be 27,495,500 pesos, of which the largest single amounts are: Emerald mines of Muzo and Coscuez, 1,000,000 pesos; salt lands, 1,100,000 pesos; telegraphs, 1,285,000 pesos; customs, 14,000,000 pesos; consular fees, etc., 1,200,000 pesos; sealed paper and national stamp, 1,150,000 pesos; consumers' tax, 1,020,000 pesos; tax on revenue. The estimated expenditures for 1921 are 33,256,110 pesos, of which the following allotments are made: Ministry of government, 9,219,745 pesos; ministry of foreign relations, 793,145 pesos; ministry of hacienda, 1,959,931 pesos; ministry of war, 4,290,915 pesos; ministry of public instruction, 1,812,115 pesos; ministry of agriculture and commerce, 1,845,886 pesos; ministry of public works, 6,803,943 pesos; ministry of the treasury, 6,530,429 pesos.

ROADS APPROPRIATION.—Law 66 of the past year calls for the improvement of roads connecting the salt mines, the salt-water distributing point, and the coal mines of Zipaquirá with the station on the railroad del Norte; the construction of roads to connect the salt mines of Chita and Muneque with the national highway from Cúcuta to the plains of Casanaré; the salt mine of the Chámeza with the city of Sogamozo and the plains mentioned; the salt mines of Upín with the plains of San Martín and the port of Batrígón, on the Rio Humea. The ministry of hacienda has calculated in the budget 50,000 pesos to cover the cost of this work.

CARTAGENA RECEIPTS OVER EXPENDITURES.—The treasury of Cartagena published the fact that the municipality collected over and above its expenditures 30,000 pesos.

COIN FOR THE CONVERSION FUND.—The steamer *General Gorgas* landed at Barranquilla 150 boxes containing 24,500 pesos in nickel coins.

THREE THOUSAND PESOS FOR CHARITY.—The Banco de Colombia has set aside 3,000 pesos of its profits for charity, the sum being divided among various institutions.

BANCO HIPOTECARIO DEL PACIFICO ISSUES BONDS.—The Banco Hipotecario del Pacifico, under authorization of a resolution of the vigilance committee on January 28, was permitted to issue bonds to the amount of 400,000 pesos at the rate of 5 per cent, the interest to be paid in advance quarterly. The bank reserves the right to amortize the bonds in whole or in part whenever it seems expedient.

CUBA.

BUDGET FOR 1921-22.—The President has laid before congress the budget estimated for the economic year of 1921-22, in which the expenditures are reckoned at \$104,137,085 and the revenue at an equal sum.

BRANCHES OF THE BANCO NACIONAL DE CUBA.—The Banco Nacional de Cuba has closed 144 of the 160 branches which it had in the Republic. The remaining 16 are in the following places: Habana, Matanzas, Cárdenas, Pinar del Río, Colón, Santa Clara, Cienfuegos, Sagua la Grande, Caibarién, Sancti Spíritus, Camagüey, Ciego de Avila, Santiago de Cuba, Holguín, Manzanillo, and Guantánamo. The Government intends to create four subtreasuries to take charge of the Government business of which this bank formerly took charge.

NEW BANKING INSTITUTION.—The Mercantile Trust Co. has been established as a bank with an initial capital of \$250,000 cash in the city of Habana. This bank will carry on the business of loans, drafts, pignoratons, savings, and other banking operations.

COINING OF CUBAN MONEY.—In the course of 1920 the Philadelphia mint coined Cuban money of different denominations to the value of \$37,548,000.

CUSTOMS COLLECTIONS.—During the last six months of 1920 the customs of Habana collected \$26,395,297. The increase in customs revenue is shown by comparison with revenue of 1909-10, when it amounted to \$17,922,091, or \$8,473,206 less than in the half last of 1920.

DOMINICAN REPUBLIC.

PORT MOVEMENT.—During 1920, the port movement of Santo Domingo was as follows: The customs duties collected amounted to \$2,247,918, imports being \$16,701,651 and exports \$11,311,384; 339 vessels entered the port, bringing cargoes of imports amounting to 63,660,317 kilos and carrying away an aggregate cargo of exports amounting to 40,546,591 kilos.

MUNICIPAL REVENUES.—The office of internal revenue of San Pedro de Macoris during 1920 collected \$520,219, which sum did not include the revenue from the sale of lottery tickets nor the court fines and fees.

DRAWING OF BONDS.—In accordance with the terms of executive order of August 2, 1918 (which provides that bonds issued for liquida-

tion of the claims allowed by the Dominican Claims Commission of 1917 be redeemed and paid by series, and determined by drawing on or before November 1), a drawing was held on October 29 last. Bonds of the C series, worth \$100 each, so far unredeemed, were the ones drawn; also 58 bonds of series D, worth \$500 each, to be redeemed January 1, 1921. The numbers and face values of the bonds thus drawn appear in the *Listín Diario* for December 23, 1920.

ECUADOR.

NEW BANK OF ISSUE.—The executive power has authorized the Company of Agricultural and Industrial Credit to issue 400,000 sucres in bank notes. Under the law this bank was entitled, because of its gold and silver deposits, to issue bank notes aggregating the amount referred to.

PANAMA.

LA GUINEA BRIDGE OVER RIO CHICO.—Law 18 of 1920, December 8, opens an additional credit in the budget for that year of \$4,000 for repairs to La Guinea bridge over Rio Chico.

APPOINTMENT OF SPECIAL COMMISSION TO PREVENT CONTRABAND.—A special commission of three members chosen from the commerce association and appointed by the President was formed to prevent the entrance of contraband articles. To defray the expenses of this commission a tax of 25 per cent on retail sales of articles of foreign origin was imposed upon merchants in the cities of Colon and Panama.

COLLECTION OF TAX ON PROPERTY.—Decree No. 1 of January 7, 1921, states that as the present classification of lands has been faulty hereafter all cultivated lands not included in the limits of a town shall be taxed at the rate of three one-thousandths of their value. That is, (1) lands sown in forage crops or other crops not exempt from tax, upon the base of valuation of \$60 per hectare; (2) natural pastures, upon base of \$40 per hectare; (3) uncultivated lands, upon base of \$25 per hectare; (4) lands which are occupied but not under title are subject to taxes at the foregoing rates and also to an additional tax of 0.50 cents per hectare until such time as they are held by title.

REDUCED TAX ON EMPTY SACKS FOR EXPORTATION.—Resolution No. 707 reduces the tax on empty bags to be used for exported native products from 1 cent to one-half cent apiece.

PARAGUAY

THE MORATORIUM.—The President has submitted to the consideration of congress the draft of a law to prorogue until May 16, 1922, the moratorium granted to the Banco Mercantil del Paraguay by

the law of November 11, 1920. The message of the President explains the reasons for this action.

BANCO DE ESPAÑA Y PARAGUAY.—The President has declared law No. 443 of November 4, 1920, to be in effect, thus authorizing the reopening of the Banco de España y Paraguay.

COINAGE OF MONEY.—The legislative power has approved the draft of a law authorizing the office of exchange to make contracts for the minting of nickel and copper coins and the engraving of bills. The President will prescribe the design for the stamp, the quantity, value, denomination, weight, and diameter of the metal coins, appropriating from the general revenues the cost of the engraving of bills and minting of metal coins.

NATIONALIZATION OF BILLS OF THE BANK OF THE REPUBLIC.—The national congress approved a law by which the President is authorized to acquire from the Bank of the Republic in the sum of 12,500 pesos coined gold the following quantities of nickel coins of the following denominations: 399,000 5-centavo pieces, 792,000 10-centavo pieces, and 996,000 20-centavo pieces. The nickel coins bear upon the face the national shield (palm, olive, and star) and the inscription, "Republic of Paraguay, 1908," and on the reverse side the designation of the nominal values of the coins of 5, 10, and 20 centavos.

PERU.

DEBTS OF THE MUNICIPALITY OF LIMA.—The mayor of the Peruvian capital has submitted the following figures showing the state of indebtedness of the municipality on December 31, 1919: Loan of 600,000 Peruvian pounds, 579,396 pounds; credits from public property, 18,193 pounds; credits Adelina Concha, 9,956 pounds; floating debt, 44,598 pounds; collection company, 72,282 pounds; and the Banco del Peru y Londres, 22,056 pounds; total, 746,481 pounds. With the nationalization of the debt from the loan of 600,000 pounds and with the amortizations made up to November 30, 1920, the municipal debt was as follows: Credits relating to public lands, 18,684 pounds; credits Adelina Concha, 9,876 pounds; floating debt, 42,857 pounds; collection company, 47,361 pounds; and the Banco del Peru y Londres, 18,940 pounds; total, 137,718 pounds.

CIRCULATION OF BILLS.—On November 30, 1920, the total value of bills in circulation in Peru amounted to 7,307,918 Peruvian pounds and the gold guarantee on deposit amounted to 7,029,470 Peruvian pounds. The banks of emission were: Caja de Ahorros of Lima, bills, 294,488 Peruvian pounds, with guarantee of 280,000 Peruvian pounds; Banco Aleman Transatlantico, 597,857 Peruvian pounds and 365,000 Peruvian pounds guarantee; Banco Popular del Peru, 1,414,637 Peruvian pounds and 779,918 pounds guarantee; Interna-

cional del Peru, 761,135 Peruvian pounds and 240,753 pounds guarantee; Banco del Peru y Londres, 2,009,733 Peruvian pounds and 964,170 pounds guarantee; Banco Italiano, 1,871,866 Peruvian pounds and 981,059 pounds, respectively; Junta de Vigilancia, 358,181 Peruvian pounds and 358,184 pounds guarantee; Banks of the United States (law No. 2,776), 2,440,149 pounds on deposit; and London banks, 620,240 pounds.

TAXES ON ALCOHOL.—Laws have been passed by the regional congress of the north creating various taxes on alcohol. One law imposes a tax of 4 soles silver on each 25 liters of alcohol introduced for consumption into the Province of Santiago de Chuco. The product of the tax will be used for the construction of potable water systems in each capital of the various districts of the Province; another law establishes the following taxes in the Province of Huailas: A tax of 10 centavos upon each bottle of liquor of national manufacture; tax of 20 centavos upon each bottle of foreign liquor; tax of 5 soles upon each 25 bottles of absolute alcohol consumed in the Province; and a 2 soles tax on each quintal of coca consumed. The revenues of these taxes will be used for various public works in the Province.

BUDGET OF THE SOCIETY OF PUBLIC CHARITY.—From the memorandum of the Society of Public Charity presented on January 1 the following data on its financial status are taken: The sums of revenue estimated in the budget of 1920 were exceeded by the receipts. Owing to the larger revenue the society has been able to cover the large expenditures which have been necessary. The project of revenue for 1921 presented to the Government for approval amounted to 238,095 Peruvian pounds; charity, 205,739 pounds; branches with particular income, 10,996 pounds; and brotherhoods, 21,360 pounds. The comparison of these figures with the budget of the previous year shows an increase of the receipts of the society amounting to 27,257 pounds.

MILITARY PENSIONS.—A law of the national congress has modified article 68 of the regulations governing military compensations in the following form: "The relatives of military subjects belonging to the class of cadet, soldier, corporal, and sergeant will receive as compensation a pension of 3 Peruvian pounds per month." The pension for families of chiefs and officers will be raised to 5 Peruvian pounds per month providing that their allowances do not reach this sum.

SALVADOR.

IMPORTATION OF AMERICAN BANK NOTES.—An executive decree has been promulgated permitting the free importation of American bank notes, and the issuance of \$10,000 in bonds of the value of 100 colones each.

URUGUAY.

MORTGAGES.—During October, 1920, 452 mortgages, affecting 621 pieces of property, for 3,594,774 pesos, were made, as against 375 affecting 428 pieces of property, for 2,201,784 pesos in October, 1919. During the same period there were canceled 318 mortgages on 353 pieces of property for 1,857,566 pesos, against 467 on 552 pieces of property for 2,299,182 pesos. In the 10 months period between January and October, 1920, 4,052 mortgages were contracted on 4,786 pieces of property for 32,767,684 pesos, against 3,245 mortgages on 4,017 pieces of property, for 21,154,122 pesos, in the corresponding period of 1919; and there were canceled 3,833 mortgages on 4,385 pieces of property, for 20,210,987 pesos, against 3,868 mortgages on 4,670 pieces of property for 20,614,182 pesos canceled during the corresponding 10 months period of 1919.

BRITISH LOAN.—The British Government has made a contract with the Bank of London and Brazil, the Anglo-South American Bank, and the Bank of London, all of which have branches in Montevideo, to pay the Uruguayan Government the balance due on loans formerly made to England. The balance will be paid with all interests, thus canceling the debt, the sum of the payment to be 14,000,000 pesos, to be deposited in the Banco de la Republica.

NEW BRANCH-BANK.—The Banco de la Republica has established a branch in the town of Aigua, department of Maldonado, in the wool-raising country.

RAILROAD RECEIPTS.—During the quarter from July to September, 1920, the railroads of Uruguay collected the sum of 2,145,090 pesos, against 2,268,169 pesos in the corresponding period of 1919, 2,009,707 in 1918, and 1,753,735 pesos in 1917.

CIVIL PENSIONS SAVINGS FUND.—The figures from the statement of expenditures and revenue of this fund from May, 1905, to October, 1920, were as follows: Revenue for widows' and orphans' fund, 4,599,986 pesos; reimbursement on salaries, 983,531 pesos; interests, 2,018,236 pesos; monthly quotas from different sources, 1,255,600 pesos: For different promotions, 164,018 pesos; from taxes on State pensions, 102,433 pesos; fines, 117,816 pesos; for different special revenues, 129,326 pesos; total revenue, 9,370,946 pesos. Expenditures for public funds, 4,139,653 pesos; for pensions, 4,535,609 pesos; for budgets and general expenses, 213,614 pesos; for reimbursements, 109,309 pesos; and for other special cases 180,368 pesos, making a total of expenditures of 9,178,553 pesos. Comparing the totals of revenues and expenditures shows a favorable balance of 192,393 pesos for the month of November.

INTERNATIONAL TREATIES

HONDURAS—NICARAGUA.

AGREEMENT.—On November 17, 1920, the President of Honduras, Gen. Rafael Lopez Gutierrez, in representation of that Republic, and Gen. Emiliano Chamorro, in representation of Nicaragua, signed the following agreement:

“1. The Governments of Honduras and Nicaragua, for the purpose of maintaining the peace and tranquility of the two Republics will, in the most cordial spirit of friendship strictly and effectively fulfill their mutual obligations with regard to the concentration and vigilance of political refugees in their respective territories, so that the plotting of armed invasions by said refugees into either of the contracting States may be avoided.

“2. The Governments of Honduras and Nicaragua will endeavor, as soon as possible and in a definite manner, to solve through friendly negotiations their pending boundary difficulties, and will until such solution is reached, respect and maintain the statu quo established when the mediation of his excellency the Secretary of State of the United States of America was accepted.”

VENEZUELA—ARGENTINA.

ARBITRATION TREATY.—On July 22, 1911, the representative of Venezuela and of the Argentine Republic signed, ad referendum, an arbitration treaty between the two countries. This treaty, ratified by Venezuela on June 12, 1912, has now been sanctioned by the Argentine Congress. The treaty is to be in force for five years, and thereafter unless terminated by the action of one of the contracting parties six months before any period of expiration, will continue in force for one year and similarly for successive periods of one year each.





LEGISLATION

BRAZIL.

REGULATIONS GOVERNING PLACES OF PUBLIC AMUSEMENT.—Decree No. 14529, published in the *Diario Oficial* of December 28, 1920, contains new rules and regulations governing places of public amusement. Places of public amusement require a police license. This is valid for the year for which it is issued and expires on December 31 of that year, and if not renewed on or before that date the chief of police is authorized to close the place. Moving-picture houses must be provided with automatic fire-extinguishing apparatus, and the walls and roofs of such theaters must be of noncombustible materials. Bookmaking is prohibited, and raffles must be duly authorized to come within the scope of the law. The carrying of firearms is forbidden, and public balls are required to close not later than 3 a. m. Films are subject to censorship, with the object of protecting the morals and interests of the public. Each film requires a special license, giving the name of the film, the name of the manufacturer, the name and business of the applicant, and the number of meters, parts, or scenes. All titles and reading matter are required to be in the Portuguese language.

CHILE.

REGULATIONS FOR CONTRACTS FOR PUBLIC WORKS.—The President has approved a regulation for contracts for public works to replace the regulation of the decree of March 31, 1898. The gist of the new regulation is as follows: The contracts for public works shall be made at a fixed price and judged at public auction in accordance with the present regulation, the same to be incorporated in all contracts except those for which special regulations are provided. To obtain a contract for public works the contractor must have plans and estimates which have been approved by the Council of Public Works and the Government. Bids will be called for by the ministry of industry and public works, excepting when less than 10,000 pesos, when the ministry will authorize the director general of the branch or intendant of the Province wherein the work occurs to call for bids and decide upon them. In every case the time shall be fixed for the presentation of the bids, 10 days being granted before presentation is necessary. Bids shall be made at a fixed price to cover all the work indicated in the plans and specifications of the project. If

definite plans are lacking for the execution of the work called for in the terms of the contract, it shall be carried out according to plans to be prepared by the fiscal inspector. The time for the completion of the work will be uniform in all the bids and so noted in all the formularies, the contractor who fails to complete the work upon schedule time to be subject to fines as indicated in the decrees calling for bids. In the letting of contracts for the construction of public works the only persons or companies permitted to present bids shall be those registered in the registry of contractors kept by the general directorate of public works. Bids shall be opened in the presence of the subsecretary of state, the director general of public works, or the provincial intendant. If within 30 days after the opening of bids no action has been taken, the interested parties may withdraw without right to an indemnity. The bidder whose bid is accepted must deposit to the order of the director general of public works a sum equivalent to 10 per cent of the amount of the bid, to remain at the order of the Government until the definite acceptance of the work. A public contract shall be signed by the bidder or a fiscal official appointed by the Government. Foreign contractors shall be considered as Chilean citizens in the carrying out of the contract. The contractor may not transfer his concession without authorization from the Government, nor may he sublet part of the contract. The stoppage of the work for more than 10 days shall be grounds for the Government to annul the contract and carry on the work by administration, unless the cessation of work by the contractor be due to superior force or plainly justifiable. The Government reserves the right to order the use of material belonging to the State, to change the works in the contract or the execution of them. The contractor will be subject to the labor accident law relating to the safety of his workmen. The contractor may not employ foreign labor except in the proportion designated by the Government. The definite acceptance of the works shall be made after the expiration of the term of the guarantee, which will be one year after the conclusion of the work on important undertakings and six months or a stipulated time for works of lesser importance.

COLOMBIA.

VARIOUS LAWS PASSED BY THE COLOMBIAN CONGRESS.—Law 89 authorizes the Government to grant to banks soliciting extension of time the time limits mentioned in article 8 of law 108 of 1919 for the amortization of the hypothecated certificates referred to in the article providing that the term for the total amortization of the documents does not exceed three years from the date when the law went into effect (law 108, 1919), and by means of the conditions necessary to

guarantee the national interests and as banking institutions shown not to have in circulation a greater quantity of certificates than the sum of their paid up capital and reserves.

LAW 90.—Certain changes are made in the present provisions for the courts of casation so that ordinary cases or judgments or those of such character may have recourse to casation providing that the amount of matter involved be 1,000 or more pesos. In judgments of succession recourse may be had to casation when the amount of the judgment is 3,000 pesos as a minimum.

EXPORTATION OF GOLD AND SILVER.—Law 97 (Nov. 25, 1920) permits the free exportation of gold dust, nuggets, or pastes produced by amalgamation or the use of cyanides; gold jewelry for personal use; gold bars when they are the only product of the foundry for uncoined gold and are the product of the mines being worked in the national territory. For the smelting of gold and its conversion into bars it is necessary to have the work done in the capitals of the departments under the supervision of the governor or one of his secretaries, and of a chemist appointed by the governor to testify that the gold to be smelted came directly from the national mines. Article 2 of the law states that in order to export gold bars from the country it is necessary to prove by the sworn testimony of the agents of the foundry or smelter where the gold was smelted that the bars of gold to be exported were neither in whole nor in part made of gold coin.

DOMINICAN REPUBLIC.

FORESTRY RESERVE LAW.—The Executive, considering that the present forests of the country are extensive and valuable, and that their utilization and proper protection are indispensable for the future of the Republic, has provided that all mountains, slopes, and watersheds hereinafter mentioned shall be known as federal reserves, in accordance with article 3 of executive order 365, known as the forestry law of the Dominican Republic. The federal reserves are the following: The mountain range of the Province of Samana, in the peninsula of the same name; the mountain range, including the mountainous country from the northern part of the Province of Pacificador to the northern part of the Province of Espailat, and from the Province of Santiago to the north of the Rio Yaque del Norte; the central part of the Province of Puerto Plata, and part of the Province of Monte Christi to the north of the Rio Yaque del Norte; the central chain of mountains known as the Cordillera Central, which constitutes the most important geographical nucleus of the Republic; and the mountain range which contains the uplands of the Province of Barahona and the southeast part of the Province of Azua.

DOCK AND STORAGE TAXES.—The Government on December 27, 1920, issued an executive order establishing the rates of dock and storage taxes. The decree provides that the dock tax shall be charged and paid in each port provided with facilities, on merchandise unloaded or loaded at docks which are the property of the Government, as follows: On all imported articles at the rate of 10 centavos per 100 kilos gross weight; exported articles, 10 centavos per 100 kilos; merchandise being shipped in coastwise trade from one regularly equipped port to another in the Republic, 2 centavos per 100 kilos; merchandise received in an equipped port from any other in the Republic, 2 centavos per 100 kilos. The dock tax will not be charged upon baggage of passengers nor upon articles exported or imported by mail. The administration and control of the docks and warehouses shall be under the comptroller of the customs, who will collect the taxes. Dock taxes and any fine which may be imposed shall be charged against the vessel, and shall be a lien upon this vessel until it be paid. The freight list or manifest must show the weight of each piece of freight and the total of the cargo in kilos. In case false weight is given the offense will be punished by a fine.

ECUADOR.

PETROLEUM.—A law promulgated on November 25, 1920, prescribes that petroleum lands, whose concessionaires have not begun the scientific exploitation thereof by the use of adequate machinery within five years from the promulgation of this law, shall be forfeited. Any one person or corporation, however, having oil lands in excess of 5,000 hectares shall have the time of forfeiture extended five years for each 5,000 hectares of excess. Until the new petroleum law becomes effective no transfer of petroleum property shall be valid without the consent of the executive power. Petroleum deposits, which have been definitely adjudicated by the issuance of proper deeds, are subject to the provisions of the mining code and the amendments thereto, including a legislative decree of October 8, 1919. The executive power will appoint a committee of three to prepare a tentative petroleum law for submission to Congress.

DRUG STORES.—A law promulgated on November 24, 1920, requires drug stores to be under the direction of a registered pharmacist. In places where there are no pharmacists drug stores may be opened under the direction of a practicing physician. A book containing a record of prescriptions filled is required to be kept in every drug store.

PARAGUAY.

INHERITANCE TAX.—The legislative power has recently approved the project of a law providing that all transference of property by death (inheritance, legacies, or donations) of property in the Re-

public shall be subject to inheritance tax in accordance with the law, and according to the ratio also fixed in the law. These taxes shall also be increased 25 per cent for the heirs, recipients of donations, and legatees, native or foreign, who were domiciled outside of the national territory up to six months previous to the death of the legator, and shall be increased to double the amount of base inheritance tax if the bequests are made to religious bodies. When parents or other relatives divide their property in donations made before death, the inheritance tax is reduced to half. If, within five years after the receipt of the property on which the inheritance tax was paid by the heir, the property is again transferred by reason of the death of the heir of the original owner, the inheritance tax on the second transfer of property by death within five years is reduced as follows: Reduction of 40 per cent if the death occurs within two years; 30 per cent if the death occurs within three years; 20 per cent if it occurs within four years; and 10 per cent within five years. The exemption from the payment of these taxes is made in favor of the State, or municipalities as legatees, also funds bequeathed for the foundation and maintenance of hospitals, asylums, or institutions of public charity or public instruction.

URUGUAY.

WORKMAN'S ACCIDENT LAW.—The principal provisions of the workman's accident law passed by the Uruguayan Congress are as follows: The manager of an industry or various sorts of work mentioned in this law shall be held responsible for all accidents to workmen on account of the work or in the course of the same. Workmen suffering from accidents occasioned by or during the work have the right to indemnity. The workman under the present law shall not have further rights against the industrial manager than those provided by this law, provided there has been no fraud on the part of the manager: Workmen who receive a salary in excess of 750 pesos a year may not obtain an indemnity rated upon a greater salary than this sum which is fixed as the maximum for the calculation of disability pensions. To have the right to indemnification the workman must have been incapacitated for work for more than seven days. The workman shall have the right to indemnification even when the accident occurred due to his carelessness in greater or lesser degree, or when it is caused by chance or superior force; but loses the right to indemnification if the accident has been caused by superior force outside of the work, when the manager is not obliged to indemnify the workman. Beside the action against the manager the victim of the accident, or his heirs, has the right of damages against the third parties to the accident, the third parties in this case being not the

manager, nor his workmen, but other persons responsible for the accident. The indemnification from the third parties relieves the manager of his obligation for an equal sum. In case the accident has caused the death or permanent disability of the workman the indemnity will be paid as a pension, a sufficient amount being deposited in the insurance bank of the Nation to cover it. All contracts for work which free the manager from responsibility for accidents to workmen are null and void. In case of temporary disability the workman will be entitled to half the salary being paid him at the time of the accident (provided that his incapacity lasts over seven days), to count from the eighth day after the accident. When the disability lasts over 30 days the indemnification shall be paid from the day after the accident. In the case of permanent partial disability the workman shall have the right to a life pension equivalent to half the reduction of his salary. In case of permanent disability he shall have a life pension of two-thirds of his yearly salary. In case of the death of the workman due to accident the heirs have the right to indemnification under the following provisions: 1. The wife or husband married to the deceased previous to the accident and not divorced or separated at the time of the accident shall have a life pension of 20 per cent of the annual salary of the deceased; if the beneficiary be the husband he may draw the pension only if incapacitated for work. 2. One surviving minor child under 16 years with one surviving parent, being at the time of the accident supported by the deceased, shall have, irrespective of the legality of its relationship to him or her, 15 per cent of the annual salary of the deceased; for two such minor children, 25 per cent; for three, 35 per cent; and for four or more, 40 per cent. If the minor children have neither father nor mother the amount may be raised to 20 per cent for each of them. The surviving wife or husband loses all rights to the pension if she or he marries again, taking in full settlement the amount of two years' pension. When a workman leaves none of the above-mentioned heirs his parents whom he supported shall have the right to 10 per cent each of his salary as a life pension. Persons mentioned in this law as being under its provisions as beneficiaries may claim rights as such only if they are living in the national territory at the time of the accident and while they there remain. If they leave the country they lose the annual pension and must accept as full indemnification the amount of three years' pension.



PUBLIC INSTRUCTION AND EDUCATION

ARGENTINA.

SCHOOL FACTS OF SANTA FE.—On September 30, 1920, there were in the municipality of Santa Fe 68 schools, of which 16 were for superior education and 52 were elementary schools. There were 217 men teachers and 426 women teachers, or a total of 643. The enrollment of pupils in the elementary schools was 9,070 and those in the superior schools numbered 5,935, making a total of 15,005 pupils. Of these schools 4 were maintained by the Nation, 49 by the province, and 15 by private persons.

UNIVERSITY OF CUYO.—The governing body of the Popular University of Mendoza has approved the plans for founding the University of Cuyo, which will be formed with the Popular University as a base, including the Quinta Agronomica (Agricultural Station), the Provincial Mercantile School, Mendoza School, National School of Mines, and the School of Fruit Culture of San Juan. The new institution will be directed by the system of free universities subsidized by the State. A committee composed of representatives of the various schools incorporated are organizing the new university which will provide for the education of the three provinces, Mendoza, San Juan, and San Luis, once united and known as the Province of Cuyo.

ENTRE RIOS SCHOOL FACTS.—From the message read to the departmental legislative assembly by the governor the following facts regarding the schools were taken: The most important step in educational lines taken by the province in 1920 was the founding of the Superior Complementary School in Parana, which has taken in all the fifth and sixth grades of the schools of the capital, so that the personnel, instead of being assigned to classes, are assigned to teach related subjects as in the institutions of higher education. Practical courses have also been established in this school, such as typing and drafting. Upon the completion of the course a series of departmental expositions and a provincial exposition will be held to exhibit the work of all branches of the school. In 1919, according to the message, there were 488 provincial schools open, 438 of which were regular schools, 30 free and family schools, 9 night schools for adults, 5 special schools, and 6 prison schools. The enrollment was 44,462 students, with an average of 39,973. The staff of teachers numbered 820 with national degrees, 7 with foreign degrees, and

152 having no degree, making a total of 979 teachers. Besides the provincial schools there were 130 private schools of different kinds, with an enrollment of 10,365 students, an average daily attendance of 7,566, and a teaching staff of 305; 81 national schools with 109 teachers, and enrollment of 8,684, and an average attendance of 5,371; and 12 municipal schools with 1,596 pupils.

SCHOOLS FOR WEAK CHILDREN.—Argentina has now instituted some open-air schools for weak children. The food given these children is a full and balanced diet, and the physicians in charge of this branch of education under medical care state that the average child in these open-air schools has increased his weight 2 pounds a month, and has also shown the consequent increase in mental strength, responsive to his improving physical condition.

BRAZIL.

PRIMARY INSTRUCTION.—The State of Sao Paulo has been expending annually about 24,000,000 milreis for primary instruction to some 186,000 pupils. A recent census shows the school population of that State, between the ages of 7 and 12 years, to be 651,000, of which number less than one-third receive primary instruction through the public schools. The governor of the State has recommended to the legislature that the amount of the budget be increased sufficiently to provide funds for instructing the entire primary school population. The new school census shows that there are now 186,000 children in the State of Sao Paulo of from 9 to 10 years of age.

SCHOOL FOR NURSES.—Rules and regulations have been issued governing the operation of the school for trained nurses in the Federal District. The period of instruction is two years. The school year is from March 1 to November 30.

SCHOOL OF MINES.—The President of the Republic has approved the rules and regulations of the School of Mines at Ouro Preto. A three years' course is prescribed.

RIVADAVIA CORREA SCHOOL.—The Rivadavia Correa professional school for girls in Rio de Janeiro recently held an exhibit of the work of students. Fine exhibits of embroidery, drawn work, etc., were made.

MILITARY AVIATION SCHOOL.—The Military Aviation School at Rio de Janeiro, which opened on December 15, 1920, had a flying squadron of 30 aviators. French instructors have been employed to assist in training the pupils.

COMMERCIAL SCHOOL.—The commercial school for women in the city of Rio de Janeiro recently graduated 40 pupils in stenography and typewriting.

CHILE.

VOCATIONAL TRAINING.—Chile has undertaken to give to her system of education a more practical trend which has brought about great reforms in her primary instruction, beginning with the school manual training classes, perfected in 1918, under the name of primary industrial schools, and to-day known as primary vocational schools. This reform was supplemented by the new law of compulsory education, which establishes a fourth vocational grade after the sixth primary grade (third) for the purpose of investigating and determining the vocation of the pupils before they leave the primary schools, training them to this end, fitting girls for domestic occupations and boys for the various trades which they have chosen.

SCHOOL BUILDING.—The ministry of public instruction has approved the budget presented by Señor A. Azancot for the construction of a school building to be known as the "Ramon Barros Luco" school in the city of Valparaiso. The budget of expenditures calls for 1,524,000 pesos and the building is to be completed within two years.

NEW SCHOOL BUILDING.—The "Joaquín Prieto" school was opened in Santiago, being the sixth of a series of large school buildings which the Government is constructing in accordance with the law of education of March 21, 1916.

DECISIONS OF THE ASSOCIATION OF NATIONAL EDUCATION.—In the meeting held by the Association of National Education the following decisions were made: To state that the basis of national education and the reform of the secondary courses and better preparation of students entering the university are the purposes of program for primary education as presented to the senate by Señor Enrique Zañartu; to urge better and more effective methods in the teaching of primary, secondary, technical and military education; the establishment of rural normal schools for the improvement of country schools and increase of agricultural education; the carrying out of the plans of the board of alcohol control, which includes the teaching of hygiene, the transformation of the liquor industry, and the scientific choice and encouragement of sports; to congratulate President Arturo Alessandri for his address to the university extension and for having assumed the leadership of the movement for the improvement of national life.

COLOMBIA.

SCHOOLS, DEPARTMENT OF CALDAS.—There are 103 city schools in the Department of Caldas, 396 rural schools, 41,120 enrolled students, and an annual attendance of 35,298, or 86 per cent, of the enrolled pupils. The average annual attendance in the following departments

is here given: Antioquía, 82 per cent; Atlantico, 80 per cent; Bolívar, 77 per cent; Boyacá, 88 per cent; Caldas, 86 per cent; Cauca, 85 per cent; Cundinamarca, 79 per cent; Huila, 78 per cent; Magdalena, 65 per cent; Nariño, 89 per cent; Norte de Santander, 83 per cent; Santander, 81 per cent; Tolima, 86 per cent; Valle, 85 per cent.

INCREASE IN THE NUMBER OF SCHOOLS.—The governor of the department of Barranquilla has issued a decree authorizing the increase of schools in accordance with the ordinance passed by the assembly.

CHANGES IN THE SCHOOL OF ENGINEERING.—The President, upon the suggestion of the council of directors of the School of Mathematics and Engineering of the National University, has abolished the course of industrial accounts; divided the algebra course into the lower algebra section and higher algebra and elements of calculus.

COURSE IN X-RAY AT THE SCHOOL OF MEDICINE.—The ministry of public instruction has arranged with Dr. Richard Andrés to hold the chair of the X-ray course, which will include the technique, the diagnosis, and treatment to be learned in connection with this branch of medical science. The head of this new course has promised to organize and put in operation the X-ray laboratory in the hospital of San Juan de Dios, to make examinations and prescribe treatment.

COSTA RICA.

SCHOOL OF OBSTETRICS.—The rules and regulations of the school for the training of women in obstetrics and nursing under the direction of the medical school of San José prescribes for candidates an entrance age of not less than 18 years, adequate educational preparation, and the moral and physical qualifications necessary for the performance of the duties of their respective callings. The period of instruction is two academic years. The school year begins March 15 and ends November 15.

CUBA.

With the approval of the secretary of public instruction, an advisory committee of distinguished educators has been organized in Habana to cooperate with the section of education of the Pan American Union in furnishing advice to the teachers whom the Cuban Government sends annually to study in the United States. This committee will obtain from the teachers a statement of their previous training, the special branches they wish to study in the United States, etc., and transmit this to the section of education in Washington, which will study each case and send back a report as to the normal school or university which seems most suitable. In this way it is hoped to avoid the loss of time that foreign students frequently experience in finding the place where they can best secure the training they wish. Those needing further practice in English will also be

assisted in securing this when they come. The committee in Habana is composed of the following: Dr. Ramiro Guerra, professor of the Normal School for Men at Habana, chairman; Dr. Estrella Grande Rossi, professor of the Normal School for Women, secretary; and Dr. Julia Martínez, directress of the Normal School for Women; Dr. Angela Landa, directress of the School of Domestic Arts; Dr. Ana Luisa Lopez Lay and Dr. Guillermina Portela, professors of the Normal School for Women; and Dr. Juan F. Zaldívar, provincial inspector of schools for Habana. The committee will have a delegate in the normal school of each province to assist in carrying on its work.

SUPERIOR NATIONAL COLLEGE.—The Superior National College held its usual interesting festivities for Christmas, which lasted until the end of the year. During this time thousands of persons visited the college to witness the celebrations and to enjoy the programs of vocal and piano music, as well as the exhibitions of the students' work.

SCHOLARSHIPS FOR ARTISTIC STUDIES IN EUROPE.—The department of public instruction has called for candidates for three scholarships for artistic studies in Europe—one for painting, one for sculpture, and one for music. The candidates must be Cuban citizens and have completed the elementary studies in the art for which the desired scholarship is offered.

EL ZAPATO ESCOLAR.—The Masonic institution bearing the aforementioned name has donated several hundred pairs of shoes to the public schools of Arroyo Apolo and Barrio Azuy.

DOMINICAN REPUBLIC.

EXAMINATIONS FOR REQUALIFICATION.—An order issued on December 14, 1920, provides that holders of degrees in medicine, dental surgery, and pharmacy, graduated in foreign schools or universities, shall be examined in the following subjects: Degrees in medicine: Descriptive anatomy, internal and external pathology; obstetrics; materia medica; medical and surgical therapeutics; operative medicine; and surgical and obstetric clinical work. For requalification in degrees of dental surgery: Special anatomy of the head; metalurgy; pathology of dental medicine; pathology of dental surgery; therapeutics of operations; dental prosthesis and dental operations. For requalification in the degree of pharmacy: Vegetable, animal, and mineral pharmaceutical subjects; pharmacology; organic chemistry as applied to pharmacy; pharmaceutical ethics; and legislation and galenic pharmacy.

MEXICO.

EDUCATION CERTIFICATES.—A law has been enacted authorizing the issuance of educational certificates in the Federal District and

the territories of Lower California and Quintana Roo to properly qualified persons desirous of giving primary instruction to children under 15 years of age in places where there are no schools. These teachers are to be paid by the Government, and the salary will be proportionate to the number of pupils taught.

SCHOOL OF AGRICULTURE.—The School of Agriculture at Ciudad Juarez, which began to function on January 10 last, charges 15 pesos per month for tuition and 35 pesos for board.

FREE SCHOOL.—A free school under the name of "Educational Center of Queretaro" has been established in the city of Queretaro.

MEXICAN STUDENTS IN UNIVERSITY OF TEXAS.—The University of Texas recently enrolled six Mexican students. These are being given tuition and board free.

PERU.

ESTABLISHING OF SCHOOLS.—The Government has ordered the establishing of an elementary school for boys in the town of Cruceri, Province of Carabaya, as well as various coeducational schools in the towns of Chullin and Carhuachuna, in the Province of Pেমabama.

ATTENDANCE AT THE PRIMARY SCHOOLS IN 1920.—The attendance in the primary schools in Peru was 184,398 pupils.

STUDY OF TEACHERS' CONDITIONS.—The Government has appointed a committee of two normal professors to study teaching and economic conditions in the southern and central parts of the Republic and to render a report to the general directorate of public instruction. The teachers appointed to compose this committee are Señores Cecilio Garrido and Julián Palacios, lately returned from the United States, where they went to make similar observations.

SCHOLARSHIPS IN THE TEACHERS' NORMAL SCHOOL.—The Teachers' Normal School has called a competitive examination in order to fill the scholarships left vacant at the end of the school year. There is one scholarship for each of the following Departments: Ancash, Cuzco, Ica, Junin, Lambayeque, Lima, and Tacna, as well as 22 which are not confined to any Department.

SALVADOR.

LYRIC-DRAMATIC ACADEMY.—A lyric-dramatic academy for both sexes has been established in the city of San Salvador, Salvador, for the purpose of developing lyric and dramatic art in that Republic. The academy will hold regular meetings on the first Sunday of each month, and meetings at such other times as may be deemed advisable. Competitive contests for lyric and dramatic works will be held and foreigners, as well as Central Americans, will be invited to participate. It is planned to publish a magazine and to found a library of dramatic works. The officers of the academy are: Fernando C. García,

president; J. Emilio Aragón, vice president; and José Antonio Morán, secretary.

NORMAL INSTITUTE FOR MALES.—The pupils of the Normal Institute for Males, a school established in the city of San Salvador for the purpose of training teachers to serve in the primary schools of the Republic, are scholarship students from the different departments of Salvador. The school year is from February 1 to November 30.

URUGUAY.

INTERNATIONAL CONGRESS FOR MEDICAL TRAINING.—The Council of the Faculty of Medicine has approved the plans of the dean for holding an international congress of medical instruction, in which all the American nations are to participate, and are to be invited in the same manner as for the sanitary conference held lately in Montevideo. The principal object of the congress will be to consider the question of medical instruction and the scientific exchange between the official schools of America.

VISIT OF INSTRUCTIVE OBSERVATION.—The Government has commissioned Señor Pablo M. Minelli to study the organization and operation of the rural schools and other educational institutions of like nature through Europe, and has also commissioned Prof. Vicente de Pablo to study the organizations of the private provincial and national conservatories of instrumental music and singing in Europe.

AGRICULTURAL INSTRUCTION.—In the Juan Jackson Agricultural School the final examinations were given in the latter part of December. The high average of these tests proved the excellent preparation of the students, of whom 40 are fitted to assume charge of the agricultural work on haciendas of the country. The school course of four years includes practical and theoretical work. The practical work is carried on in the land belonging to the school, of some 150 hectares, where olives, grapes, and various kinds of fruits are raised. The agricultural work is varied and is carried on with modern methods. There are money prizes and competitions to stimulate ambition in the students.

SCHOOL BUILDING.—Acceding to the request of the council of primary education, the ministry of public works has ordered the construction of a school building in the town of Casupa, department of Florida. It has also ordered the construction of a rural school, "Abra del Alférez," in the department of Rocha, on land donated for the purpose.

VENEZUELA.

THE STUDY OF PHYSICS.—The federal college for males at Maracay and the high schools of Caracas, both for boys and girls, have recently installed laboratories fully equipped with apparatus and materials for the study of physics.

GENERAL NOTES

ARGENTINA.

NEW DOCK IN SAN MARTIN.—The Government has authorized the Compañía Sudamericana de Aceites (oil company), established in San Martin, to construct a dock to cost 75,794 pesos. The firm of Bantle, De Lorenzi, y Firpo has also been authorized to build a 200,000 peso grain elevator in the port of the Argentine capital.

ARGENTINE NAVY IN 1921.—The ministry of marine has ordered the location of the navy for 1921, as follows: Ships to remain manned are the ironclads *Moreno* and *Rivadavia*; the armored cruisers *Belgrano* and *San Martin* forming the first division of the sea squadron and the remainder the second; the squadron of destroyers composed of the *Catamarca*, *Jujuy*, and *Cordoba* forming the first group, and the *Entre Rios* and *Corrientes* the second; the gunboat *Rosario* and the school ships; the cruiser *9 de Julio* the coast guard *Almirante Brown* the frigate *Sarmiento* and coast guard *Libertad*; the hydrographic boats, the sloop *Uruguay* and buoy layer *Alferez Mackinlay*, the auxiliary *Ingeniero Iribas* and the advice boat *Gaviota*; all the transports and oil boats, with the exception of the *Primero de Mayo* and the *Azopardo* and the third and fourth batteries of the military port. The monitor *El Plata* will remain assigned to the torpedo and mines command of the arsenal of Rio de la Plata, and the torpedo boat *Thorne* to the school of machinery. Among the unmanned boats the following will be placed: The armed cruisers *Garibaldi* and *Pueyrredon*, the cruiser *Buenos Aires*, the gunboat *Parana*, the torpedo scout *La Plata*, and the torpedo boats *Misiones*, *Py*, *Murature*, *Jorge*, *Bathurst*, and *Buchardo*.

VITAL STATISTICS.—According to the Bulletin of the Municipal Statistics the population of Buenos Aires on October 31 was 1,674,333 inhabitants, or a natural increase in the population of 1,248 persons and an increase by immigration of 1,245 during the same months. The births for the month were 3,343, the deaths 2,095, and the marriages 1,346.

POLICE AND FIREMEN'S MAUSOLEUM.—The President of the Republic and the municipal intendent of the city of Buenos Aires attended the laying of the corner stone of the mausoleum of the police and firemen in the Cemetery del Oeste.

ARGENTINE CONSUL GENERAL IN CALIFORNIA.—The Argentine Government has appointed Señor Santos Goñi consul general in California. Señor Santos Goñi is a journalist of long standing, and especially well prepared to exercise the functions of the new post to which he has been appointed.

ARGENTINA AND PARAGUAY'S FRIENDLY RELATIONS.—Upon the arrival of a delegation of Argentine students at Asunción many speeches were made by the officials of the Paraguayan Government and replied to by the visiting students, containing reassurances of the very cordial and fraternal relations existing between the two countries. The object of the visit of the Argentine students was to place a memorial plaque of bronze on the house where the great educator Sarmiento died.

DEATH OF THE MEXICAN MINISTER TO ARGENTINA.—Early in December the Mexican Minister to Argentina, Dr. Jesús Urueta, died in Buenos Aires barely three months after assuming his diplomatic post. Dr. Urueta was a well-known Mexican lawyer, journalist, and literary man, thought to be the foremost criminalist of his country. His book, "Discursos Literarios," dedicated to ancient Greece, is a testimony to his thorough acquaintance with the Hellenic civilization.

SANITARY OFFICE IN HUMAHUACA.—The sum of 20,000 pesos has been given to the national department of hygiene to install a sanitary office in Humahuaca, Province of Jujuy, to curb the exanthemathous typhus which has developed.

CHILE AND ARGENTINA AGAINST BRIGANDAGE.—Chile and Argentina, in accordance with their treaty regarding police frontiers signed by both countries in 1920, have united to eliminate the bandits who have been operating in the territory of Santa Cruz, in the southern part of the country and contiguous to the Chilean territory of Magellan.

BOLIVIA.

NEW CONSULS.—The President has appointed the following consuls: Señor Macedonio J. Caneda, consul general in Buenos Aires; Señor Carlos Gumucio, consul general in New York; Señor Germán Zegarra, consul general in Antwerp; Señor Gustavo Ríos Bridoux, consul general in Hamburg; Señor Benjamín Torrelio, consul in Holland; Señor Poliandro Moscoso Rodas, consul in Jujuy; Señor Gustavo A. Navarro, consul in Havre; Señor Luis María Herbas, consul in Embarcación; Señor Nemesio Calvo, consul in Corumbá; Señor J. Gabriel Levy, consul in Bordeaux; Señor José López, consul in La Rochelle; Señor Alfredo del Carpio, consul in Antofagasta; Señor Eduardo Careaga, consul in La Quiaca; and Señor Ernesto Pérez del Castillo, vice consul in Yunguyo.

BRAZIL.

POPULATION OF RIO DE JANEIRO.—The population of the city of Rio de Janeiro, according to a census taken in September last, is 1,157,873.

TRADE-MARKS.—Under a decree of December 9, 1920, the Brazilian Government extends protection to trade-marks transmitted by the trade-mark bureau established at Habana, Cuba, under the terms of the Buenos Aires convention of 1910.

ARSENAL.—A maritime arsenal is being built on the island of Cobras, in the Bay of Rio de Janeiro, at a cost not to exceed \$1,482,738.

MONUMENTS.—The Brazilian Congress has authorized the Government to contract for the erection of a monument in one of the public parks of Rio de Janeiro in honor of Dom Pedro II, one time Emperor of Brazil. Funds have been appropriated to the amount of 650 contos, and bids have been requested for the work. The unveiling is to take place on September 7, 1922, in connection with the centenary celebration. The Syrian colony in São Paulo will present to that city a centenary monument to be unveiled on the same date as a feature of the centenary celebration.

MARRIAGE OF BRAZILIANS ABROAD.—The department of foreign relations of the Brazilian Government has advised Brazilian consuls that marriage ceremonies may be performed in Brazilian consulates by the consuls, provided one or both of the contracting parties are Brazilians.

ESTIMATED POPULATION.—The estimated population of the Republic of Brazil, based on the result of the census taken on September 1 1920, is 30,553,509.

CHILE.

NEW HIGHWAY BRIDGE.—A bridge over the River Tinguirarica near the city of San Fernando, uniting two high roads, has been opened to the public recently. The bridge is 168 meters long, and is divided into three sections, being 32 meters wide in the central section. It is built of reinforced concrete upon iron piles driven 12 meters deep. As an accessory a road 2,900 meters long was built, in which there is a bridge 6 meters long. The total expenditure was 360,500 pesos.

TERRITORIAL PROPERTY OF CHILE.—The number and values of Chilean city and country property appraised for taxation for the period from 1917 to 1922 are as follows: 151,858 city properties, worth 3,414,694,101 pesos; 148,518 country properties, worth 3,588,651,832 pesos; or a total of 300,376 properties, worth 7,003,345,933 pesos. The average value of these pieces of property in relation to the area and population of Chile is 9,931 pesos per square kilometer and 1,848 pesos per inhabitant.

WIRELESS TELEPHONE COMMUNICATION.—The first wireless telephone communication in Chile was successfully held between the University of Chile and the School of Medicine over a distance of several miles. The instruments used were of the same type as the wireless telegraph instruments used by the Germans in the trenches and which have been adapted to wireless telephony. It is probable that a wireless telephone system will soon be established in Chile.

BRIDGES.—The Government has accepted bids for the construction of the following bridges: Claro bridge, in the Cordillera de Talca (mountains), at a cost of 225,000 pesos currency and 147,000 pesos gold; and the River Nuevo bridge, at a cost of 580,195 pesos currency and 121,000 pesos gold.

"AMIGOS DEL ARBOL" (FRIENDS OF TREES) SOCIETY.—The University of Chile held a literary and musical festival to inaugurate the Friends of Trees Society organized under the patronage of the agronomic societies of Chile—Tourist propaganda society, Primary Instruction, Protection of Animals Society, "Benjamin Vicuna Mackenna," etc. As indicated by the name the new society will endeavor to teach a love and respect for trees and inculcate this feeling in the people to preserve and replenish their natural forests.

INDUSTRIAL ASSEMBLY.—In December, 1920, an industrial assembly was organized in Santiago by the Society for Promotion of Manufacturing to organize the productive elements of the country. Among the resolutions passed in the assembly were the following: Industrial protection by means of customs tariff; formation of a central investigation and industrial experiment institute; the reopening of immigration with restrictions; the reduction of freights on machinery and industrial equipment; the reestablishment of trade relations with all the countries of Europe and Asia under the Chilean code of 1896; the adjustment of commercial treaties; free trade with Latin American countries, and reciprocity with the United States and Canada; and the establishment of international railroad lines.

PUBLIC WORKS.—The council of public works has accepted the bids for the construction of the Claro and Mapocho bridges on the Talagante-El Monte road, which are estimated to cost 1,283,000 pesos. It has also been decided to build dykes at Viña del Mar across the estuary which enters the city.

MINISTER OF POLAND.—The Count Javier Orłowski, first minister plenipotentiary from Poland, has arrived in Chile. The new minister represents Poland in Brazil, Uruguay, and Chile.

APPLICATION OF IODINE TO INDUSTRIAL USES.—Señor Arturo Amenábar Ossa's methods for the application of iodine to industrial uses were given a practical demonstration in the laboratory of Dr. Luis E. Mourgues, of Valparaiso. Representatives of Chilean industries viewed the demonstration first explained by Dr. Mourgues,

who showed that Chile is the largest producer of iodine in the world and that its application to industrial use would bring to Chile new industries and make them hers permanently.

VISIT TO CHILE BY THE UNITED STATES FLEET.—Early in February the Pacific fleet of the United States, composed of the *New Mexico*, the *Idaho*, the *Wyoming*, the *Arkansas*, the *Texas*, the *New York*, and the *Mississippi*, with 18 destroyers and 5 auxiliary vessels, visited Valparaiso. Thousands of spectators watched the entrance of the fleet into the bay. The flagship *New Mexico* fired a salute of 21 guns to the Chilean Nation, which was returned by the *O'Higgins* of the Chilean Navy, and the American sailors were made welcome by the Chilean authorities and populace alike.

COLOMBIA.

UNION OF SANTANDER.—A number of representative citizens of the Province of Santander del Norte met in the halls of the Society of Agriculturalists of Colombia and formed a society called the "Union of North Santander" for the purposes of general improvement throughout the country and cooperation between the different regions of the Republic; to recognize as a work of vital importance to the country and especially to the Province of North Santander the extension of the railroad from Cucuta to the Magdalena River and to recommend its immediate construction to the Government.

ROADS.—The Government is endeavoring to build roads as rapidly as possible. Advices from Cucuta state that at present the road between Chitaga and Ocaña is being built and the Rosario road is being completed as fast as possible.

UNVEILING OF COLOMBIAN MEMORIAL IN VENEZUELAN PANTHEON.—On December 22, in the presence of the diplomatic corps, Government officials, members of the Colombian colony, and distinguished persons, a memorial stone to the Liberator, presented by Colombia to the Venezuelan Government, was unveiled in the National Pantheon.

COLOMBIAN CITIES OVER 20,000 INHABITANTS.—According to the 1918 census the following cities of Colombia have over 20,000 inhabitants: Bogota, 143,994; Medellin, 79,146; Barranquilla, 64,543; Cartagena, 51,382; Cali, 45,825; Manizales, 43,203; Ibague, 30,255; Cucuta, 29,490; Pasto, 29,035; Aguadas, 27,721; Sonson, 27,632; Palmira, 27,032; Bucaramanga, 24,919; Neiva, 24,889; Peirera, 24,735; Quibdo, 24,722; Cienaga, 24,708; Monteria, 23,268; Chiquinquira, 22,502; Andes, 22,424; Libano, 22,251; Cartago, 21,470; Santa Rosa de Cabal, 21,018; Fredonia, 20,341; Salamina, 20,326; Popayan, 20,235.

ROAD FROM CARACOLI TO ARANCAPLUMAS.—The congestion of traffic on the upper Magdalena has been considerably relieved by

the completion of the road between Caracoli and Arancaplumas, over which the autotrucks and automobiles can now make the journey between the two ports and return in an hour and a half.

COSTA RICA.

OFFICIAL TIME.—Beginning with January 15, 1921, the Costa Rican Government has adopted as the standard of time for the Republic that of the meridian 90 degrees west of Greenwich.

NEW MAGAZINE.—A new magazine, entitled "Yonta," the object of which is to promote the spiritual and commercial development of the country, is soon to be published in San Jose.

ELECTRIC LIGHT AND POWER PLANT.—The congressional finance committee had recommended that the municipality of the canton of Santo Domingo be permitted to negotiate a loan of 52,000 colones for the establishment of an hydroelectric light and power plant.

CUBA.

VENEZUELAN MINISTER.—The Government of Cuba has recognized Licenciado José L. Andara as envoy extraordinary and minister plenipotentiary of Venezuela.

JAPANESE CONSUL.—The Japanese Government has appointed M. Someya Japanese consul in Cuba. This is the first Japanese consul sent to Cuba, the work having been attended to previously by the English consul.

IMMIGRATION IN 1919.—In 1919 the immigrants to the Island of Cuba numbered 80,488 persons, of whom 71,100 were men and 9,388 women. The numbers by nationalities were as follows: Spaniards, 39,573; Jamaicans, 24,187; Haitians, 10,044; Americans, 1,227; and from other countries, 5,457. Of the total number of immigrants, 2,143 were minors under 14 years of age; 74,959 were between the ages of 14 and 55 years; and 3,386 were over 55 years. The immigrants who had received instruction numbered 63,616, and 16,872 were illiterates. The total amount of money which they exhibited in their possession amounted to \$1,730,245. The immigration in 1919 was greater by 43,167 individuals than that of 1918, and the ports through which the most entries were made were those of Habana and Santiago de Cuba.

AIR MAIL SERVICE.—In January last air mail service was begun between Habana and the Province of Santiago de Cuba.

STEAMER SERVICE WITH PHILADELPHIA.—It is reported that the United States Shipping Board has handed over the freight service between Philadelphia and Habana to the New York & Cuba Mail Steamship Co. (Ward Line). This service was previously carried on

by the Earn Line with United States Shipping Board vessels, which has now stopped running.

BUILDING FOR MAILS AND TELEGRAPHS.—In the progressive town of Sagua la Grande a fine Government building was opened for the post and telegraph offices.

POSTAL MONEY ORDERS.—In January two postal money-order offices were opened—one in the post office of Gaspar and the other in the Central Violeta office, both in the Province of Camagüey.

ECONOMIC SOCIETY OF THE FRIENDS OF THE COUNTRY.—The society has elected a new board of directors constituted as follows: President, Dr. Raimundo Cabrera; first vice president, Señor Eligio Natalio Villavicencio; second vice president, Señor Sebastián Gelabert; censor, Dr. Leopoldo Cancio Luna; treasurer, Dr. Antonio González Curquejo; librarian, Dr. Ramiro Cabrera; accountant, Señor Pedro E. Larrinaga, Marquis of Esteban; secretary, Señor Antonio J. Arazoza. The new committee appointed Dr. Rafael A. Fernández director of the Redención, and Señor Eduardo Rodríguez de Armas inspector general of the schools of the society.

DOMINICAN REPUBLIC.

CLINICAL LABORATORY.—Under the charge of Dr. Fernando A. Defilló, a well-known Dominican scientist, a new clinical laboratory is to be installed soon in the city of Santo Domingo. The laboratory is to be equipped with the most modern instruments and improvements for its work.

QUARANTINE STATION.—The executive power has appropriated the sum of \$25,000 for the construction of a quarantine station at Cayo Pascual, in the Bay of Samana, together with the necessary related works, such as a small dock, buildings, tanks, and the necessary equipment.

SALE OF CITY PROPERTY.—The city government of Puerto Plata has ordered the sale of 100,000 square meters of ground belonging to the city in order to use the proceeds of the sale for public improvements of a necessary nature, such as the work on the aqueduct, the opening of new streets, etc.

THE CREATION OF A SUBSECRETARYSHIP.—The Government has created the post of subsecretary of state of the interior and police, and Señor Manuel de J. Lluberes has been appointed to fill the new office.

OFFICE OF MUNICIPAL BUSINESS.—Since January 1, 1921, an office has been opened in the Dominican capital to attend to municipal questions. It is a branch of the department of state of the interior and police in charge of the civil governor of Santo Domingo Province, Señor Juan Francisco Sánchez.

ADVISORY BOARD.—The Government has appointed Mgr. Adolfo Nouel, archbishop of Santo Domingo, and Señores Francisco J.

Peynado, Eliseo Espaillat, Rolando Martínez, Manuel de J. Lluberes, Jacinto de Castro, and Federico Velasquez to form an advisory board to make amendments to the constitution and revise the general laws of the Republic, including the drafting of a new electoral law. The amendments shall be submitted to a constituent assembly and the national congress of the Republic, respectively. Señor Rafael Justino Castillo has been elected technical advisor of the committee.

CENSUS OF THE REPUBLIC.—In the latter part of December preliminary work was begun for taking the census of the Republic.

ECUADOR.

BOUNDARY WITH COLOMBIA.—The department of foreign relations of Ecuador has published the official documents concerning the boundary between Ecuador and Colombia, as well as the treaty of July 15, 1916, and the minutes of the Colombia-Ecuador boundary commission.

CENTENARY STAMPS.—The time for the circulation of the stamps commemorative of the first centenary of the independence of Guayaquil has been extended until June 30, 1921.

PUBLIC HEALTH PHYSICIANS.—The department of public health has appointed four physicians to work in the health department in Quito.

MAP.—On December 15, 1920, work was begun in the preparation of a general and scientific map of the Provinces of the Republic under the supervision of the director of the astronomic observatory.

CONSUL GENERAL.—Dr. Francisco Ochoa Ortiz has been appointed consul general of Ecuador in Panama.

GUATEMALA.

AUTOMOBILE ROAD.—The automobile road from the city of Guatemala to Cuilapa, a distance of 14 leagues, is reported to be in excellent condition for automobile passenger and freight traffic. Two automobile trucks now furnish freight transportation to and from this rich agricultural section of the Republic.

PROTECTION OF CHILDREN.—The Government of Guatemala is cooperating with the Society for the Protection of Children. Recently it made available a house in the city of Guatemala for the headquarters of this society.

REDUCTION OF ARMY.—The Government of Guatemala proposes to reduce its standing army of 15,000 men to 5,000 men. This means a reduction in the cost of maintaining the army of more than \$50,000 a month.

MEXICO.

MONUMENT.—The labor unions of the Republics of Central America propose to erect a monument in the City of Mexico in honor of the

Mexican people, and more particularly in honor of the industrial and laboring classes.

WIRELESS STATION.—A wireless station is soon to be erected on María Madre Island in the Pacific Ocean, west of the Territory of Tepic.

BATHING BEACH.—An American company has requested permission to establish a bathing beach on Coronado Island, Lower California.

GEOGRAPHIC CONGRESS.—Preliminary steps have been taken for the holding of a geographic congress in the City of Mexico from September 27 to October 2, 1921, under the auspices of the Mexican Geographic and Statistical Society.

PANAMA.

HONORARY DEGREE CONFERRED ON DIRECTOR GEN. ROWE.—The minister of the interior of Panama, Hon. Ricardo J. Alfaro, and the chargé d'affaires of Panama in Washington, Hon. J. E. Lefevre, were the participants in a ceremony which took place at the Pan American Union on Tuesday, March 29. The occasion was the delivery of the diploma of the faculty of law and political science conferring upon Dr. L. S. Rowe, director general of the Pan American Union, the honorary degree of doctor of laws. In an address delivered by the minister of the interior of Panama he dwelt on the reasons which had led the faculty of law to confer this degree, and in his acceptance Dr. Rowe expressed his deep appreciation of the honor thus conferred upon him.

DRAFT OF A LAW TO TEACH THE TANNING TRADE.—The draft of a law to teach the tanning trade was read in the assembly. The proposed law provides for the contracting of foreign (English, French, and American) tanning experts to locate in the tanneries of the country and undertake to teach boys over 15 years of age the art of this industry, as well as the related trades of shoemaking, leather work, etc.

ELEVEN SEAPLANES FLY TO PANAMA.—Eleven seaplanes of the United States Navy flew from San Diego, Calif., to Panama.

PACIFIC FLEET OF THE UNITED STATES VISITS PANAMA.—On January 17 the Pacific Fleet of the United States Navy, numbering 42 ships, sailed into the harbor at Balboa. Admiral Rodman, who was formerly head of the marine division of the canal, is in command of the Fleet. The Atlantic Fleet arrived a day or so later in Colon Bay under the command of Admiral Wilson. The Atlantic Fleet passed through the canal to join the Pacific Fleet, and together they made the trip to the west coast of South America.

CHILEAN CRUISER ALMIRANTE LATORRE.—The Chilean 33,000-ton cruiser *Almirante Latorre* visited Panama. The admiral of the

Chilean fleet, Señor Gomez Carreño, made an official call upon the President of the Republic and also upon Admiral Rodman of the American Fleet.

FRENCH TRAINING SHIP JEANNE D'ARC.—The French training ship *Jeanne d'Arc* arrived January 19, to traverse the canal with its quota of naval students.

COMMITTEE OF PANAMAN AND LATIN AMERICAN SOCIETY OF LABOR ON CANAL.—The officials of the Panaman and Latin American Labor Society of the Canal paid a visit of courtesy to the President of the Republic, acquainting him with the aims and purposes of the society.

DRIVERS OF PUBLIC CONVEYANCES FORBIDDEN TO CARRY LIQUOR WHILE ON DUTY.—Decree No. 2, January 14, 1921, forbids drivers of public conveyances to have liquor upon their persons or in their vehicles while on duty, or to take as passengers in their conveyances members of the army or of the navy who are carrying flasks containing liquors.

REGULATION OF ADMINISTRATION FOR ENFORCEMENT OF LIQUOR TAXES.—Decree No. 130 of 1920, December 13, lays down the regulation for the administration of the collection of liquor taxes, and defines the different kinds of alcohol to be used for industrial and medicinal purposes; governs the use of stamps on imports, etc.

MEETING OF THE RED CROSS OF PANAMA.—On January 13 the National Red Cross of Panama held a meeting attended by the President of the Republic and Señora de Porras, at which the executive committee were reelected to office. The annual report stated that apart from the smaller services given to the aged, the poor, and children, an asylum for children known as the Asilo de la Infancia had been founded and was opened on May 13, 1920, with 36 children. To-day it houses and cares for 45 otherwise homeless children. The asylum is in the charge of the Bethlehemite sisters, and is supported by a subsidy from the Government. The Red Cross assisted an average of 130 families a month. Visits were made to Palo Seco, the leper colony, and convicted women confined in Chiriqui prison were visited. On Christmas Day 1,300 persons, young and old, received gifts, or money and clothing.

PARAGUAY.

COMMEMORATIVE TABLET.—Many persons attended the ceremony of placing a commemorative tablet in the house where the Argentine statesman, Don Domingo F. Sarmiento, died.

VITAL STATISTICS OF ASUNCION.—The vital statistics of Asuncion during 1920 were as follows: Births, 2,293; marriages, 255; and deaths, 1,964.

MORMON IMMIGRATION.—It is reported that arrangements are being made for the purchase of 500 leagues of land to be colonized by 60,000 Mormons, who will take up agricultural work in the Republic.

CENSUS OF ASUNCION.—A census of the city of Asuncion is to be taken.

RAILROAD BRANCHES.—The administrator of the Central Railroad has planned the construction of several branch lines; one from Paraguari to the Misiones, another from Ipacaray to the Cordilleras, and others for the opening up of rich regions of the Republic.

COMPILATION OF LAWS.—The director of lands and colonies, Señor Genaro Romero, has ordered that all the laws of colonization, of home and immigration be published in pamphlet form and distributed to the authorities of the Republic, so that information dealing with the most important provisions for promotion and the development of the country, its industries and activities, may be disseminated.

NATIONAL MEDICAL CONGRESS.—The First National Medical Congress met in Asuncion during the first week of March and was attended by distinguished physicians, who brought up many questions during the interesting program which should be of benefit to the medical profession of the country.

PERU.

GIFT OF BUILDINGS FOR LEGATIONS.—The President of the Republic has been authorized by the national congress to acquire or buy two buildings, which are to be given—one to the United States and the other to Spain—for the use of their respective embassies in Peru. The presentation of the buildings will take place on the centenary of the independence of the Peruvian Nation as one of the acts in the program of patriotic festivities.

HAGUE TRIBUNAL.—The Government has reappointed Dr. Lizardo Alzamora as member of the Permanent Court of Arbitration at The Hague. Dr. Alzamora fulfilled the duties of his office for six years in accordance with the convention signed for the pacific settlements of international conflicts at The Hague in 1907. Dr. Francisco García Calderón has been appointed Peruvian delegate to the Assembly of the League of Nations, and also occupies the post of envoy extraordinary and minister plenipotentiary of Peru to Belgium.

OFFICE OF AMERICANISM.—In a recent meeting held by the Federation of Students it was decided to establish an office of Americanism under a mixed committee of delegates from the commission and students to direct a propaganda in favor of interchange of books, papers, and magazines between the nations of the American Continent; to ask of the diplomatic representatives and intellectuals of the Americas a series of lectures on educational, literary, and scientific questions as treated in their own countries, to be published in the official organ of the Federation; and to establish in the library of the institution a photograph gallery of the great intellectual men of the Americas.

MONUMENT TO AN AMERICAN AT LAKE TITICACA.—The Peruvian ambassador in the United States has informed his Government that the students of Vassar College request the Peruvian Government to extend them facilities for erecting in July next a statue on Esteves Island in Lake Titicaca to the memory of Prof. James Orton, of Vassar College, who died upon the island after spending years in explorations in Peru. The statue weighs 3 tons, and it is planned to have it reach Puno in time to be unveiled upon the centenary of the proclamation of Peruvian independence, which will occur in the coming July.

PERUVIANS DECORATED BY ENGLAND.—The Government of His Britannic Majesty has bestowed upon Señor Juan José Reinoso, Dr. Luis Varela y Orbegoso, Señor Luis de Izcue, and Capt. José M. Olivera of the navy, the decoration of the Great British Empire, the highest decoration accorded to foreigners by that Nation. The decorations were given in recognition of the recipients' services to the cause of the Allies during the war.

CONSTRUCTION OF A CANAL.—A law has been promulgated by the regional congress of the north empowering the President to arrange for the preliminary survey and plans for the construction of a canal to receive the waters of the Rio Porcon and conduct them to the town of Cachicadan and the settlements of Chuca and Llaturpamba.

DISTRICT OF PARCO.—The President of the Republic has promulgated the law passed by the central regional congress to create the district of Parco in the Province of Jauga. The capital of the new district will be the town of Parco, including the settlements of Yple and Ullusca.

SALVADOR.

ELECTRIC LIGHT.—A contract has been signed for the establishment of an electric light and power plant in the city of Suchitoto, department of Cuscatlan.

POTABLE WATER.—Dr. Virgilio Cornejo has been authorized to form a company to supply the village of Concepcion de Ataco with drinking water.

WIRELESS SERVICE.—A wireless telegraph service has been established between the city of San Salvador and the wireless telegraph office of the Republic of Guatemala. Messages will be charged at the rate of 10 centavos de colon per word.

PENAL CODE.—An edition of 1,200 copies of the Penal Code of Salvador, including all legislative changes from 1904 to 1920, has been declared official by the President of the Republic. The code must bear the seal of the department of justice.

UNION OF EMPLOYEES.—A society entitled "Sociedad Union de Empleados" (Union Society of Employees) has been established in

the city of San Salvador. The principal object of this society is to further the progress of the arts and sciences, as also the moral, intellectual, and material development of its members. This society, which is nonpolitical, will establish a library and publish a review. Another society, whose object is entirely social, has been organized under the name of Tecleño Club in the city of Nueva San Salvador.

GREENWICH TIME.—Beginning January 1, 1921, the Government of Salvador has adopted as its standard the time of the ninetieth degree west of Greenwich.

URUGUAY.

NEW ROADS.—The Uruguayan Government has planned the building of three highroads—one from San Jose to Colonia, through the villages of Rosario and La Paz and the town of Nueva Helvecia; the second from the bridge across the River Solí Grande to the city of Maldonado, through the villages of Pan de Azucar and San Carlos; and the third road from the city of Canelones to the town of San Ramon, bringing these two places into communication with the towns of Sauce, Santa Rosa, and San Bautista. Seventy per cent of the cost of these roads will be covered by an annual tax per square hectare on property along the roads in question, and 30 per cent of the remainder of the cost will be paid by the State, for which the President will be authorized to issue 500,000 pesos worth of Government bonds of the debt of public works.

DRAFT OF ANTIALCOHOLIC LAW.—The congress of the Republic is considering the proposed antialcoholic law, the principal provisions of which are: The drinking, manufacturing, invitation to partake, the presentation or sale of alcoholic liquors, shall be considered as crimes designated as alcoholism and punishable by fines from 200 to 1,000 pesos, or imprisonment. This does not except wine, beer, cider, and liquors with a smaller alcohol content. The preparation and sale of alcoholic beverages in drug stores and pharmacies and the therapeutic use of alcohol upon the presentation of a doctor's prescription, given for legitimate reasons, are the exceptions to this law.

PERMANENT COURT OF ARBITRATION.—The Government has appointed to compose the court of arbitration, for a term of six years, beginning January 1, 1921, the following members: Dr. Juan Zorilla de San Martin, president of the Uruguayan Society of International Law; Dr. Manuel B. Otero, senator (these two members being reappointed); Dr. Benito M. Cuñarro, president of the high court of justice; and Dr. Julio Bastos, minister of the high court of justice.

FIRST NATIONAL CONGRESS OF MUNICIPALITIES.—In December, 1920, there was held in the city of Durazno the First National Congress of Municipalities organized by the Council of Thirty-three. There were also present the ministers of the interior, public works, delegates

from the legal powers of the Nation, representatives of all the municipal councils and representative assemblies, councils of primary and normal education, hygiene, university council, and public charity and rural federation. Various subjects came under discussion at the congress, including agricultural, industrial, financial, and educational matters from a municipal viewpoint.

MINISTER FROM HOLLAND.—The Uruguayan Government has received Señor Jacobo Barendrecht as envoy extraordinary and minister plenipotentiary from the Netherlands to Uruguay.

CONGRESSES AND SCIENTIFIC CONFERENCES.—During October of the present year there are to be held in Montevideo the Second Congress of Dermatology and Syphilography, the Third South American Conference of Microbiology, Pathology, and Hygiene, and the Second National Medical Congress. In order to conduct these congresses the Government has asked congress to appropriate a credit of 12,000 pesos.

INTERNATIONAL BRIDGE.—The Government has issued a decree which states that the plans of the high commissioners, agreed upon in the treaty made with the United States of Brazil on July 22, 1918, to build an international bridge is approved. The bridge is to cross the River Yaguaron, to be located between the town of Villa de Rio Branco and the city of Yaguaron in the section of the river known as Rua da Uruguayana.

VENEZUELA.

WIRELESS STATIONS.—The Venezuelan Government has arranged for the installation of 22 wireless stations in the Republic. The installation at Maracay has been completed and contracts have been awarded for the erection of wireless towers at San Cristobal, Maracaibo, Puerto Cabello, Coro, La Guaira, and Ciudad Bolivar. It is also planned to install a central wireless station to be used in communicating with foreign countries.

PARCEL-POST PACKAGES.—On the arrival in Venezuela of parcel post matter the customhouse authorities prepare and post a list of the packages in a public place—sometimes in the post office—thus informing the addressees of the arrival of their packages and enabling them to declare their intention to accept or reject after inspecting the contents. If the addressee accepts the parcel he is required to make out a declaration of acceptance. It is important that shippers send to their consignees by the same ship which carries the parcels, full particulars as to the contents thereof, so that declarations may be made in accordance with Venezuelan laws.

HOSPITAL.—The Government of the State of Aragua has completed and opened to the public use the Ali Gomez Hospital, which is equipped in the most up-to-date manner.

SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED TO MARCH 12, 1921.

Subject.	Date.	Author.
ARGENTINA.		
Merger of American chambers of commerce.....	1920. Dec. 16	W. Henry Robertson, consul general at Buenos Aires.
Proposed connection of State railways with Buenos Aires.....	do. . . .	Do.
Projected oil concession in Province of Buenos Aires.....	Dec. 18	Do.
Foreign trade of Argentina in 1920.....	Dec. 27	Do.
1921.		
Boletín of public works—Subject: Water-power resources or water-power projects.....	Jan. 4	Do.
Market for scientific apparatus and laboratory supplies.....	Jan. 7	Wilbert L. Bonney, consul at Rosario.
Boletín No. 184. El Comercio Exterior Argentino en 1918 y 1919.....	Jan. 10	W. Henry Robertson.
Indefinite postponement of proposed American exposition in Buenos Aires.....	Jan. 17	Do.
Special number of Buenos Aires Herald (New Year's edition)....	Jan. 19	Do.
Shipping and navigation in 1920.....	Jan. 24	Do.
BOLIVIA.		
1920.		
Market for scientific apparatus and laboratory supplies.....	Dec. 17	W. Duval Brown, consul at La Paz.
Increase in tax on oil concessions in Bolivia.....	1921. Jan. 10	Do.
BRAZIL.		
1920.		
Exportation of lumber and timber during current year.....	Dec. 14	A. T. Haeberle, consul general in charge, Rio de Janeiro.
Rubber industry and market for rubber goods.....	Dec. 16	C. R. Cameron, consul at Pernambuco.
Cultivation of coconuts.....	Dec. 22	Thomas H. Bevan, consul at Bahia.
Sugar factories in district.....	Dec. 27	C. R. Cameron.
Immigration into Brazil from 1820 to 1919.....	Dec. 30	A. T. Haeberle.
1921.		
Market for scientific apparatus and laboratory supplies.....	Jan. 25	Thomas H. Bevan.
Do.....	Jan. 28	A. T. Haeberle.
Commerce of Sao Paulo for 1919 and 1920.....	Feb. 2	E. M. Lawton, consul at Sao Paulo.
CHILE.		
New pier to be constructed at Arica.....	Jan. 21	Homer Brett.
Announcement of the nitrate association in regard to prices.....	Feb. 1	Dana G. Munro, economist consul at Valparaiso.
COLOMBIA.		
Monthly report on commerce and industries.....	Jan. 25	Arthur C. Frost, consul at Barranquilla.
Highway transportation.....	Jan. 31	Leroy R. Sawyer, consul at Santa Marta.
Market for paints and varnishes.....	Feb. 18	Do.
Market for musical instruments.....	Feb. 19	Do.
COSTA RICA.		
Notes: Coffee, water power, employees' association.....	Feb. 17	C. E. Guyant, consul at San Jose.
CUBA.		
Market for pianos and player pianos.....	Jan. 17	Frank Bohr, consul at Cienfuegos.
Four per cent tax decree in Cuba.....	Feb. 18	Carlton Bailey Hurst, consul general at Habana.
DOMINICAN REPUBLIC.		
Economic notes.....	Jan. 14	W. A. Bickers, consul at Puerto Plata.
Electric plant may cease operation.....	do. . . .	Do.
Negligible demand for thoroughbred cattle.....	Jan. 20	Geo. A. Makinson.
Proposed electric plant for San Francisco de Macoris.....	Jan. 26	W. A. Bickers.
Tobacco crop.....	Feb. 8	Do.
Encouragement of exports to the United States, and investment opportunities.....	Feb. 21	Do.

Reports received to March 12, 1921—Continued.

Subject.	Date.	Author.
GUATEMALA.		
Opportunities for growing and canning pineapples.....	1921. Jan. 31	Herndon W. Goforth, vice consul at Guatemala City.
Opportunity for the establishment of a small glass factory in Guatemala.	Feb. 1	Do.
HONDURAS.		
Market for scientific apparatus and laboratory supplies.....	Feb. 11	G. K. Donald, consul at Tegucigalpa.
MEXICO.		
Automobile exposition to be held in April, 1921.....	Feb. 12	Cornelius Ferris, jr., consul at Mexico City.
Market for musical instruments in district.....	Feb. 23	J. B. Stewart, consul at Chihuahua.
Moratorium has been declared in State of Yucatan, which suspends until March 1, 1922.	Mar. 4	O. Gaylord Marsh, consul at Progreso.
NICARAGUA.		
Increased exports to Atlantic coast of Nicaragua by parcels post.	Jan. 11	John R. Brady, consul at Bluefields.
PANAMA.		
Construction of national roads.....	Jan. 4	George Orr, consul at Panama City.
American trade with Colon.....	Jan. 14	Julius D. Dreher, consul at Colon.
Erecting new buildings in Colon.....	Jan. 28	Do.
Foreign markets for paints and varnishes.....	Feb. 2	Do.
PARAGUAY.		
Market for American hardware in Paraguay.....	1920 Dec. 1	George E. Seltzer, vice consul at Asuncion.
Market for men's hats.....	do. . .	Do.
Trade information on Paraguay.....	Dec. 4	Do.
Banco de España y Paraguay reopens.....	Dec. 16	Do.
Commerce and industries for November, 1920.....	Dec. 18	Do.
Rediscount law modified.....	Dec. 20	Do.
Market for scientific apparatus and laboratory supplies.....	Dec. 24	Do.
Notes: Construction works, industrial projects.....	Dec. 30	Do.
Paraguay to mint coins.....	do. . .	Do.
Paraguay as a market for American flour.....	Dec. 31	Do.
Concession for lines for motor trucks for passengers and cargo.....	do. . . 1921	Do.
Paraguay increases specific duties on imports.....	Jan. 9	Do.
Law for concession of telephone in Asuncion.....	Jan. 10	Do.
Paraguay to permit foreign ships in coasting trade.....	Jan. 14	Do.
Law of concession for construction of system of waterworks and sewers in Asuncion.	Jan. 15	Do.
PERU.		
Medicinal herbs in Peru.....	Jan. 21	James H. Roth, consul in charge, Lima and Callao.
Peru's export tax on vanadium.....	do. . .	Do.
Carpet-weaving school established in Lima.....	Jan. 25	Do.
SALVADOR.		
Convention concerning commercial travelers was ratified Nov. 6, 1920.	Jan. 18	Lynn W. Franklin, vice consul at San Salvador.
Copy of January Bulletin of Chamber of Commerce of El Salvador	Jan. 19	Do.
Fire in San Salvador.....	Jan. 21	Do.
Fire insurance carried by merchants.....	Jan. 26	Do.
URUGUAY.		
Growth of the hat industry in Uruguay.....	1920 Dec. 27	David J. D. Myers, consul at Montevideo.
Foreign trade for September, 1920.....	Dec. 31	Do.
1921		
Uruguay in 1920.....	Jan. 4	Do.
Foreign trade for October.....	Jan. 5	Do.
Water-power resources or water-power projects.....	Jan. 8	Do.
Explosives imported by Uruguay.....	Jan. 20	Do.
Value of live stock in Uruguay.....	Jan. 22	Do.
Montevideo exports in 1920.....	Jan. 31	Do.
VENEZUELA.		
Report on the coffee crop.....	Jan. 27	Wm. P. Garrety, consul at Puerto Cabello.
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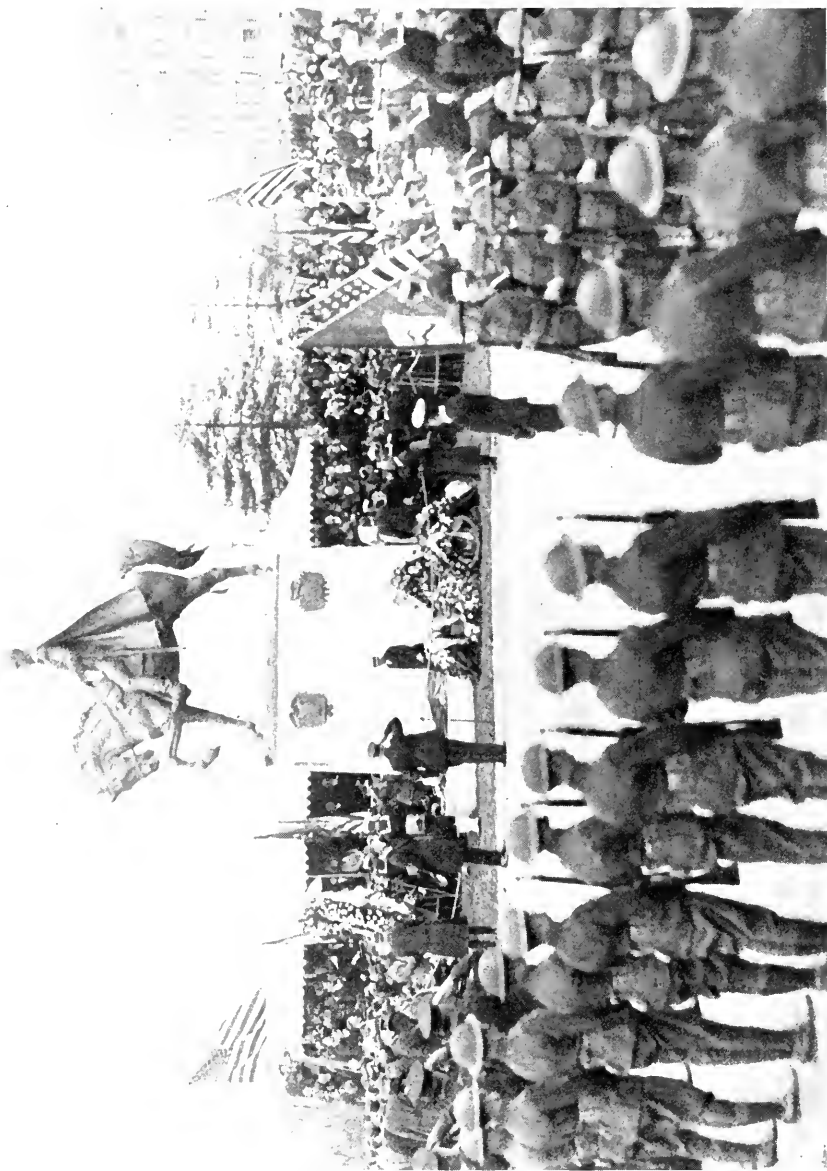




TABLE OF CONTENTS

	Page.
Unveiling of the Statue of Bolivar.....	433
Comment of President of the United States on the League of Nations and the Treaty of Versailles.....	434
The Cuban-American Telephone Service Inaugurated.....	438
Federation of the Central American Union.....	446
The International Trade Situation in South America.....	452
Dairying in Various Countries.....	459
Aviation Development in Ecuador.....	475
Memorial Bust of Gen. Gorgas for Panama.....	480
Death of Gen. Rafael Reyes.....	482
Future Development of the South American Oil Industry.....	484
Agriculture, Industry, and Commerce.....	487
Argentina, Bolivia, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Paraguay, Peru, Salvador, Uruguay, Venezuela.	
Economic and Financial Affairs	503
Argentina, Bolivia, Brazil, Chile, Colombia, Cuba, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Salvador, Uruguay, Venezuela.	
Legislation	513
Chile, Panama, Peru, Salvador, Venezuela.	
Public Instruction and Education	515
Argentina, Bolivia, Colombia, Cuba, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Salvador, Uruguay.	
General Notes	523
Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Salvador, Uruguay, Venezuela.	
Subject Matter of Consular Reports	535
Book Notes	537

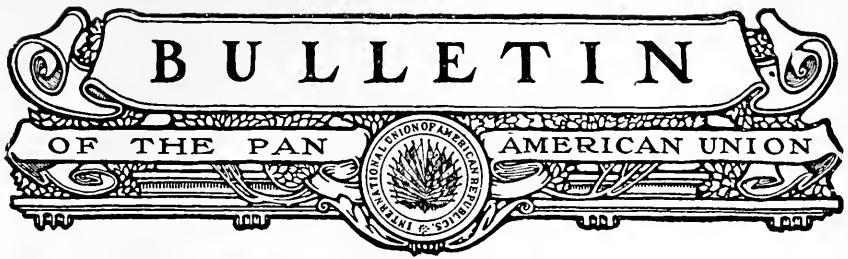




Photograph by Underwood & Underwood.

THE HEROIC STATUE IN BRONZE OF GEN. SIMON BOLIVAR, PRESENTED TO THE CITY OF NEW YORK BY THE GOVERNMENT OF VENEZUELA, IMMEDIATELY AFTER BEING UNVEILED.

The crowd stands at salute during the playing of the national anthem.



VOL. LII

MAY, 1921

No. 5

UNVEILING OF THE STATUE OF BOLÍVAR

ON April 19, before perhaps the most distinguished audience ever assembled in the city of New York, the statue of the great South American patriot and liberator, Simon Bolívar, presented by the Government of Venezuela to the city of New York, was unveiled with the most imposing and brilliant ceremonies in Central Park, where the statue has been installed on the summit of a green knoll which has been known as Bolivar Hill since 1883.

At the foot of this statue, under a radiant April sky, a new union of the Americas was plighted under no lesser authority and by no less accredited speakers than Warren G. Harding, President of the United States, and Dr. Esteban Gil Borges, minister of foreign affairs in Venezuela. Gov. Miller, on behalf of the State of New York, and Mayor Hylan, on behalf of the city, expressed in glowing terms their deep appreciation of Venezuela's graceful courtesy in making this noble gift and their abiding sense of the gesture of friendship which the gift embodies. The diplomatic representatives of the 20 Latin American countries were included in the ceremony.

It is of interest to note that at the hour when Bolívar's memory was being thus signally honored in the United States, high Government officials, the American minister, and representative citizens of Venezuela were gathered in another park, in Caracas, to honor the memory of Washington, who shares with Bolívar the title of emancipator and father of his country.

The statue of the great South American patriot and leader is the work of Mrs. Sally James Farnham, of New York City. It is of

heroic proportions and design and was selected by the Venezuelan commission as the result of a competition of sculptors held in Caracas a few years ago.

This brief and necessarily incomplete résumé of the unveiling ceremonies will be supplemented by a special publication to be issued shortly by the Pan American Union, in which a complete account will be given of this historic event, including the speeches delivered. Copies of this publication will be sent to the recipients of the Spanish edition of the BULLETIN.



OBVERSE AND REVERSE OF THE MEDAL STRUCK BY THE GOVERNMENT OF VENEZUELA IN COMMEMORATION OF THE UNVEILING OF THE STATUE OF SIMON BOLIVAR.

This medal is the work of Mrs. Sally James Farham.

COMMENT OF PRESIDENT OF THE UNITED STATES

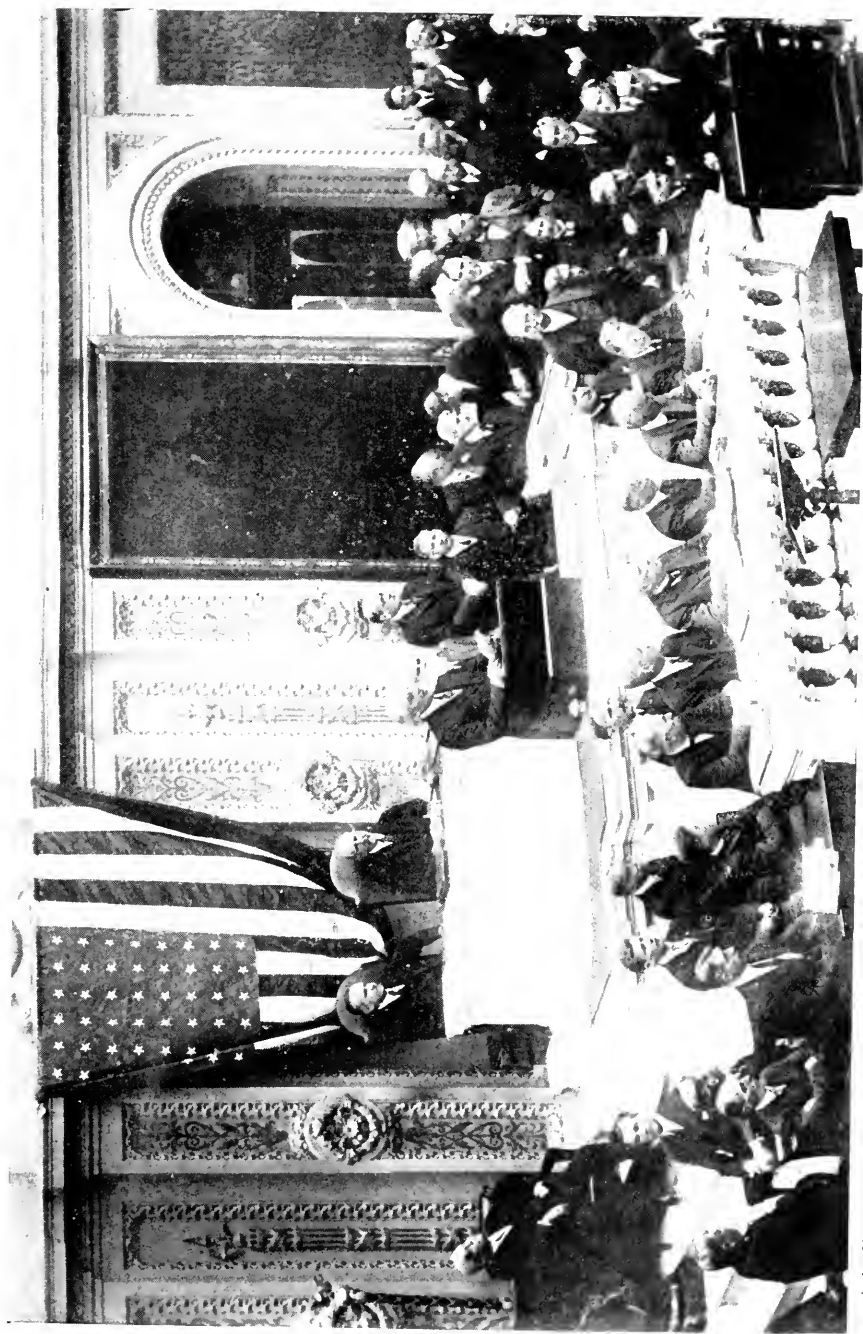
ON THE LEAGUE OF NATIONS AND THE TREATY OF VERSAILLES

PRESIDENT HARDING delivered his first presidential message, in person, at a joint session of the two Houses of Congress on April 12, 1921. In this message he made the following comment on the League of Nations and the Treaty of Versailles:

Nearly two and a half years ago the World War came to an end, and yet we find ourselves to-day in the technical state of war, though actually at peace, while Europe is at technical peace, far from tranquility and little progressed toward the hoped-for restoration.

It ill becomes us to express impatience that the European belligerents are not yet in full agreement, when we ourselves have been unable to bring constituted authority into accord in our own relations to the formally proclaimed peace.

Little avails in reciting the causes of delay in Europe or our own failure to agree. But there is no longer excuse for uncertainties respecting some phases of our foreign



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PRESIDENT HARDING DELIVERING HIS FIRST PRESIDENTIAL MESSAGE AT A JOINT SESSION OF CONGRESS, APRIL 12, 1921.

Directly behind the President are sitting Vice President Calvin Coolidge and Speaker Frederick H. Gillett.

relationship. In the existing League of Nations, world-governing with its super-powers, this Republic will have no part. There can be no misinterpretation, and there will be no betrayal of the deliberate expression of the American people in the recent election; and, settled in our decision for ourselves, it is only fair to say to the world in general, and to our associates in war in particular, that the League covenant can have no sanction by us.

The aim to associate nations to prevent war, preserve peace, and promote civilization our people most cordially applauded. We yearned for this new instrument of justice, but we can have no part in a committal to an agency of force in unknown contingencies; we can recognize no superauthority.

Manifestly the highest purpose of the League of Nations was defeated in linking it with the treaty of peace and making it the enforcing agency of the victors of the war. International association for permanent peace must be conceived solely as an instrumentality of justice, unassociated with the passions of yesterday, and not so constituted as to attempt the dual functions of a political instrument of the conquerors and of an agency of peace. There can be no prosperity for the fundamental purposes sought to be achieved by any such association so long as it is an organ of any particular treaty, or committed to the attainment of the special aims of any nation or group of nations.

The American aspiration, indeed, the world aspiration, was an association of nations, based upon the application of justice and right, binding us in conference and cooperation for the prevention of war and pointing the way to a higher civilization and international fraternity in which all the world might share. In rejecting the league covenant and uttering that rejection to our own people, and to the world, we make no surrender of our hope and aim for an association to promote peace in which we would most heartily join. We wish it to be conceived in peace and dedicated to peace, and will relinquish no effort to bring the nations of the world into such fellowship, not in the surrender of national sovereignty but rejoicing in a nobler exercise of it in the advancement of human activities, amid the compensations of peaceful achievement.

In the national referendum to which I have adverted we pledged our efforts toward such association, and the pledge will be faithfully kept. In the plight of policy and performance we told the American people we meant to seek an early establishment of peace. The United States alone among the allied and associated powers continues in a technical state of war against the Central Powers of Europe. This anomalous condition ought not to be permitted to continue. To establish the state of technical peace without further delay I should approve a declaratory resolution by Congress to that effect, with the qualifications essential to protect all our rights. Such action would be the simplest keeping of faith with ourselves, and could in no sense be construed as a desertion of those with whom we shared our sacrifices in war, for these powers are already at peace.

Such a resolution should undertake to do no more than thus to declare the state of peace, which all America craves. It must add no difficulty in effecting, with just reparations, the restoration for which all Europe yearns, and upon which the world's recovery must be founded. Neither former enemy nor ally can mistake America's position, because our attitude as to responsibility for the war and the necessity for just reparations already has had formal and very earnest expression.

It would be unwise to undertake to make a statement of future policy with respect to European affairs in such a declaration of a state of peace. In correcting the failure of the Executive, in negotiating the most important treaty in the history of the Nation, to recognize the constitutional powers of the Senate we would go to the other extreme, equally objectionable, if Congress or the Senate should assume the function of the Executive. Our highest duty is the preservation of the constituted powers of each, and the promotion of the spirit of cooperation so essential to our common welfare.

It would be idle to declare for separate treaties of peace with the Central Powers on the assumption that these alone would be adequate, because the situation is so involved that our peace engagements can not ignore the Old World relationship and the settlements already effected, nor is it desirable to do so in preserving our own rights and contracting our future relationships.

The wiser course would seem to be the acceptance of the confirmation of our rights and interests as already provided and to engage under the existing treaty, assuming, of course, that this can be satisfactorily accomplished by such explicit reservations and modifications as will secure our absolute freedom from inadvisable commitments and safeguard all our essential interests.

Neither Congress nor the people needs my assurance that a request to negotiate needed treaties of peace would be as superfluous and unnecessary as it is technically ineffective, and I know in my own heart there is none who would wish to embarrass the Executive in the performance of his duty when we are all so eager to turn disappointment and delay into gratifying accomplishment.

Problems relating to our foreign relations bear upon the present and the future, and are of such a nature that the all important future must be deliberately considered, with greater concern than mere immediate relief from unhappy conditions. We have witnessed, yea, we have participated in the supremely tragic episode of war, but our deeper concern is in the continuing life of nations and the development of civilization.

We must not allow our vision to be impaired by the conflict among ourselves. The weariness at home and the disappointment to the world have been compensated in the proof that this Republic will surrender none of the heritage of nationality, but our rights in international relationship have to be asserted: they require establishment in compacts of amity; our part in readjustment and restoration can not be ignored, and must be defined.

With the supergoverning league definitely rejected and with the world so informed, and with the status of peace proclaimed at home, we may proceed to negotiate the covenanted relationships so essential to the recognition of all the rights everywhere of our own Nation and play our full part in joining the peoples of the world in the pursuits of peace once more. Our obligations in effecting European tranquillity, because of war's involvements, are not less impelling than our part in the war itself. This restoration must be wrought before the human procession can go onward again. We can be helpful because we are moved by no hatreds and har or no fears. Helpfulness does not mean entanglement, and participation in economic adjustments does not mean sponsorship for treaty commitments which do not concern us, and in which we will have no part.

In an all-impelling wish to do the most and best for our own Republic and maintain its high place among nations and at the same time make the fullest offering of justice to them, I shall invite in the most practical way the advice of the Senate, after acquainting it with all the conditions to be met and obligations to be discharged, along with our rights to be safeguarded. Prudence in making the program and confident cooperation in making it effective can not lead us far astray. We can render no effective service to humanity until we prove anew our own capacity for cooperation in the coordination of powers contemplated in the Constitution, and no covenants which ignore our associations in the war can be made for the future. More, no helpful society of nations can be founded on justice and committed to peace until the covenants reestablishing peace are sealed by the nations which were at war. To such accomplishment—to the complete reestablishment of peace and its contracted relationships, to the realization of our aspirations for nations associated for world helpfulness without world government, for world stability on which humanity's hopes are founded—we shall address ourselves, fully mindful of the high privilege and the paramount duty of the United States in this critical period of the world.

THE CUBAN-AMERICAN TELEPHONE SERVICE INAUGURATED

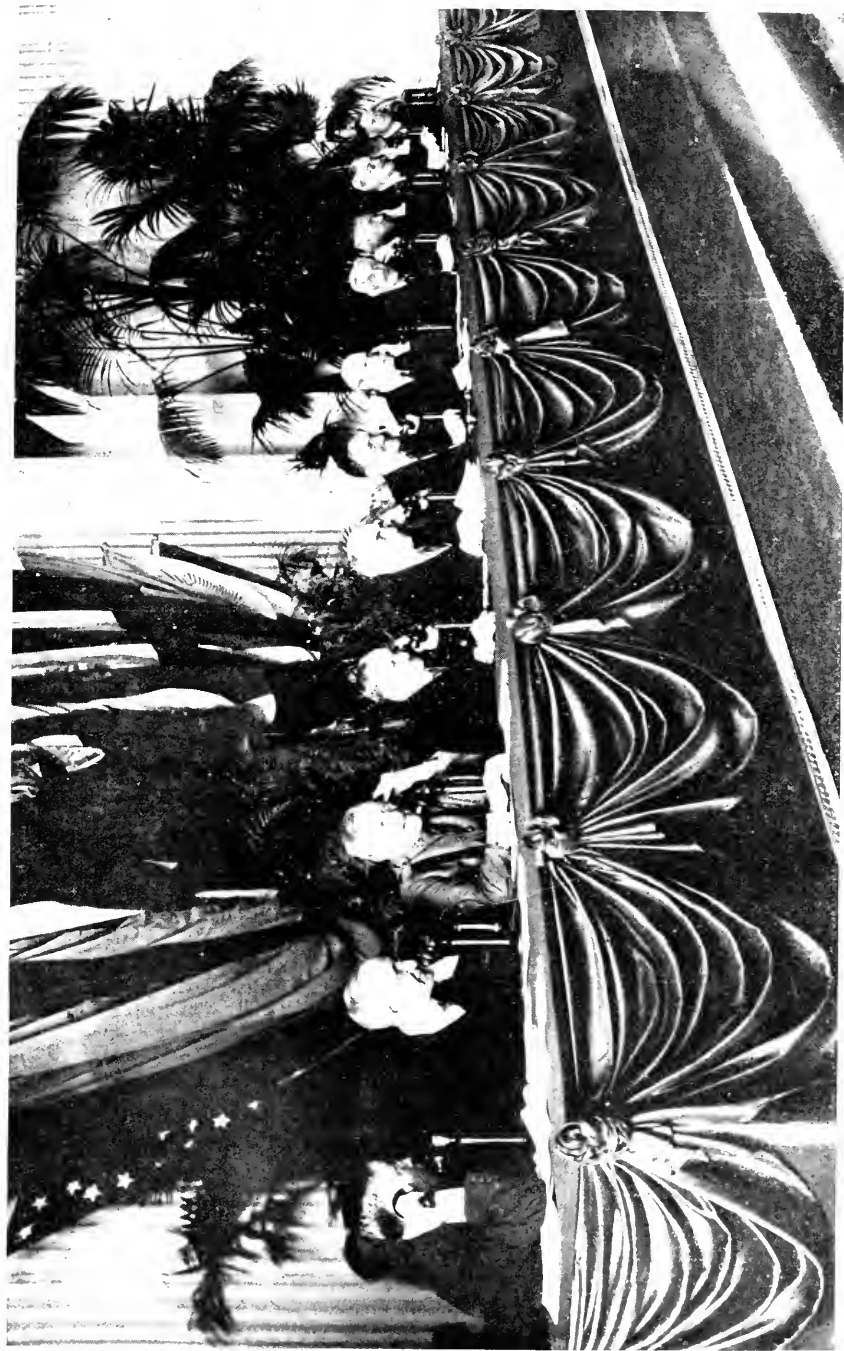
By MURIEL BAILY

ON April 11 President Warren G. Harding, of the United States, talked over the telephone from the Pan American Union Building to President Mario G. Menocal, of Cuba, at the headquarters of the American Telephone & Telegraph Co. at Habana.

The event was made the more epochal by arrangements which the telephone company had made for the longest telephone conversation ever held, whereby the telephone operator at Habana, Cuba, in the Atlantic Ocean, talked with the telephone operator at Catalina Island in the Pacific Ocean, off the coast of southern California, over approximately a distance of 6,000 miles, 30 miles of which was by radio telephone.

It was an occurrence of dramatic present interest and of prospective great importance. There were gathered in the Hall of the Americas the President of the United States and Mrs. Harding; Dr. Leo S. Rowe, director general of the Pan American Union; members of the Cabinet; the Diplomatic Corps; representatives of the Army and Navy; officials of the telephone company; and the members of the National Press Club, who were the hosts of the occasion. A platform had been raised at the north end of the hall for the special guests, upon which was placed a long table draped with gold tapestry and equipped with the ordinary telephone instruments for the use of each. The flags of the United States and Cuba hung side by side in the background with the grouped standards of all the Pan American Union Republics. Great palms, masses of American Beauty roses, and potted ferns completed the decorations.

Nine hundred telephone receivers had been installed in various parts of the building and each of the 700 chairs in the Hall of the Americas had been wired and had its individual receiver. The Columbus room had been turned into a regular telephone station, with its full complement of operators and troublemen, and the solemn features of the great Discoverer looked down upon the apparatus through which men's voices would travel in seconds over the distances it had taken successive generations three centuries to cross on foot.



Photograph by Underwood & Underwood.

THE PRESIDENT OF THE UNITED STATES AND OTHER HIGH OFFICIAL PERSONAGES OPENING THE TELEPHONE CABLE TO CUBA, APRIL 11, 1924, AT THE PAN AMERICAN UNION BUILDING.

Left to right: Col. J. J. Carty, Vice-president of the American Telephone & Telegraph Co.; Col. J. M. Wainwright, Assistant Secretary of War; Gen. John J. Pershing; Dr. Cárlos M. de Céspedes, minister of Cuba to the United States; President Harding; Dr. L. S. Rowe, Director General of the Pan American Union; Charles Evans Hughes, Secretary of State; Andrew W. Mellon, Secretary of the Treasury; Henry P. Fletcher, Undersecretary of State; Cuno Rodolph, District of Columbia Commissioner; and Avery Marks, president of the National Press Club.

When everything was ready and the honor guests had reached their places, the United States Marine Band, which was stationed in the patio, played the national anthems of the United States and Cuba. Avery C. Marks, jr., president of the National Press Club, opened the program with a brief word of welcome to the assemblage and of congratulation for the engineers who put through this wonderful achievement. Dr. Rowe was the next speaker and his words of greeting were as follows:

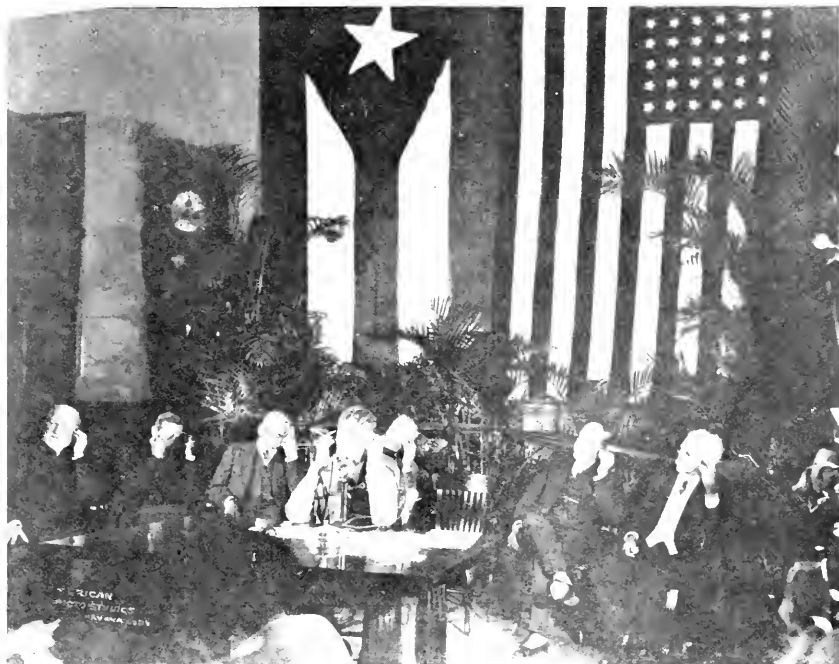
We are assembled this afternoon to celebrate an event of far-reaching international importance. Every successive stage in the development of international communication marks a step forward in the growth of mutual understanding and good will. To-day's triumph of scientific and technical skill in establishing connection between Washington and Habana will to-morrow perform the same service for Central America; and we may confidently look forward to a similar inauguration of telephonic communication between the United States and the countries of South America. The occasion is, therefore, one of distinctive Pan American significance, for the service that is to-day being inaugurated will be a powerful factor in cementing cultural and commercial ties and in eliminating causes of international misunderstanding.

Col. John J. Carty, vice president of the American Telephone & Telegraph Co., then explained the program of telephoning which was to follow, giving some slight idea of the enormous undertaking the successful result of which was to carry the spoken word from the Atlantic to the Pacific coast by radio, overland, and undersea telephone—a feat never before accomplished in the history of the world. Col. Carty said, in part:

A cable 110 miles long has been laid from Key West to Habana, through water which is a mile deep in some places, which now connects Cuba with the United States. This is by far the longest telephone cable, sea telephone cable, in existence, and it presented difficulties of great magnitude, which have been overcome. From Washington-New York to Habana by land is, in round numbers, about 1,500 miles, and the President of the United States will talk to the President of Cuba over that line. As a method of utilizing this event in paying respect to the President of the United States and the President of Cuba there have been distributed over lines 6,000 miles long telephone employees at intervals of 250 miles. I will call the roll of those men and you will hear them answer as promptly and as clearly as though they were a file of soldiers here in this room.

From San Francisco down to Los Angeles there runs a line which at the latter point is connected with a radio line 30 miles in length to Catalina Island, so that we will hear over a land line, a deep-sea cable, and an example of radio telephony 30 miles long.

This line over which you will talk represents the longest line over which practical conversation has ever taken place. That same line, if extended in a direct line from London to Paris, to Berlin, to Moscow, and to Peking in China would give you as good a talk as that which you will hear to-day. Also, a line of that length, if extended from London to Paris, to Constantinople, to Bombay, and Calcutta could connect London with its Indian Empire. It has a significance to us that is nearer home, because if the present line were extended to the south through Mexico it would pass through all of the Central American countries and reach as far as Peru and almost to Brazil on the east.



Photograph by American Photo Co.

PRESIDENT MENCOCAL TALKING FROM HABANA TO PRESIDENT HARDING.

The two Presidents and other Government officials talked over the first international undersea telephone for more than an hour on April 11. From left to right: Dr. Rafael Montoro, secretary to President Menocal, Gen. Eugenio Sánchez Agramonte; Col. Charles Hernández; President Mario G. Menocal; Gen. Enoch L. Crowder; Mr. Herman Behm, of the Atlantic Telephone & Telegraph Co.; Dr. Pablo Desvernine, secretary of state of Cuba; and Mr. Boaz Long, United States minister at Habana.



Photograph by American Photo Co.

CELEBRATING THE OPENING OF THE CUBA-AMERICAN TELEPHONE.

The diplomatic corps and the families of Cabinet members were gathered at the headquarters of the Atlantic Telephone & Telegraph Co. at Habana for the inauguration ceremonies. Seated on the platform at the far end of the room Secretary Desvernine is talking with Secretary Hughes in Washington.

Col. Carty then sat down and, taking up his receiver, called Habana, Cuba, on the telephone. In less time than it takes to get the ordinary local telephonic connection the operator at Habana answered, and those who listened, not only in the Hall of the Americas, but on the lower floor of the Pan American Union Building, out of sight of those using the transmitters, could not have told by the strength of the tone whether the speaker were in Habana or Washington.

Having got his connection with Habana, Col. Carty proceeded to call the roll, perhaps the most dramatic circumstance of a very remarkable occasion. This roll call brought in on the line, one after the other, responses from operators in 26 cities in 21 States and two ocean islands, stretching at widely separated intervals north from Habana to New York on the Atlantic seaboard, across the wide continent to San Francisco, and south again on the Pacific coast to Los Angeles and Catalina Island. The voices came clearly and distinctly even when the calls were flashed far westward over the intervening thousands of miles, any difference in tone being clearly due to the speaker's individuality. A slight variation in quality and quantity could be observed when the radio had been reached and Catalina Island answered. It was still, however, quite clear, and when Mr. Behn, at Habana, and Mr. Spicer, at Catalina Island, compared their climatic conditions and gave their respective geographic situations for the edification of their thousand odd listeners, every word was distinctly heard.

At the end of the roll call, and when the conversation between Habana and Catalina had been concluded, the west was cut off and the program with Habana continued. About 500 guests of President Menocal were assembled with him in Habana provided with the same opportunities for hearing the talks as were those in Washington. At this point Dr. Rowe took charge of the proceedings, calling first for President Menocal with the message that President Harding desired to speak with him. When the two Chief Executives were in communication President Harding said:

I want you, President Menocal, and the Government and people of Cuba, to know how gratifying it is to participate with you in this ceremony which signifies so much in the establishment of more intimate and understanding relations between the United States and Cuba. This time is especially auspicious for the exchange of assurances that our two republics are bound together by indissoluble ties of sympathy and interest. Our fortunes have been linked together already in two history-making struggles, and to-day when Cuba stands under the shadow of a national misfortune, I want you to know that the United States is determined as always to prove itself the true and helpful friend of your nation.

After President Menocal had responded in kind, Dr. Rowe called for the Secretary of State of Cuba, Dr. Pablo Desvernine, who talked with Secretary of State Hughes. Conversations followed in quick succession between Secretary of the Treasury of the United States

Andrew W. Mellon, and the Cuban Secretary of Gobernacion, Col. Hernández; the Cuban minister at Washington, Dr. Carlos Manuel Céspedes, talked with Boaz Long, minister of the United States at Habana; Col. Wainwright, of the War Department, spoke with Gen. Martí, Secretary of War and Navy of Cuba; Gen. Pershing talked with Maj. Gen. Enoch Crowder, who is in Cuba on a special mission from the United States; and finally, Cuno H. Rudolph, of the District of Columbia Commission, spoke with Gen. Agramonte of the Cuban Cabinet.

The connection was maintained for over an hour, and the laughter and applause at either end of the line could be plainly distinguished.

The opening of this commercial telephone connection by way of the undersea cable connects 40,000 Cuban telephones with the 13,000,000 in the United States, and will shortly connect with all of the Bell telephones in Canada. Across the Florida Straits there are three separate cables laid, each with a carrying capacity of one conversation and three telegrams at the same time. And whereas the depth under the sea, between Habana and Key West, at which the tones of the voice were carried was one mile, the height reached was also exactly one mile above sea level at Denver, Colo.

The clearness and ease with which the voices of those at such amazing distances were heard reciprocally, was one of the marvels of the achievement and was accomplished by the placing of amplifiers at stated distances, so that when the tones of the voice began to weaken they were "stepped up" as the engineers call it, or strengthened, and sent on again with increased force to the next amplifier. This is the same instrument which made it possible for the thousands to hear with perfect ease the inaugural address of President Harding on the 4th of last March. Its discovery and practical application has made long distance telephoning a simplified utility.

Just 40 years ago the telephone was itself an innovation. About 20 years ago Marconi demonstrated the success of his wireless telegraph apparatus, receiving a message through 2,000 miles of ether from St. Johns to Poldhu, Land's End, England. Only six years later Dr. Guiseppi Musso came to the United States determined to perfect the wireless telephone and discovered instead that it was possible to talk over a submarine cable as well as to send telegrams thereby. Continued experiments and inventions along these lines have brought the present results, with the promise of even greater marvels. Not only have domestic and commercial life been revolutionized by these recent advances, but international relations have been greatly strengthened and international knowledge greatly facilitated.

The demonstration which took place in the Pan American Union Building demonstrated the practical working of the three methods

of telephonic communication. The overland cable can be extended indefinitely; the undersea cable offers unlimited possibilities along the line of successful progress; the field of the radio telephone appears for the present at least to have its limitations. It is interesting to note that the staff of engineers who designed this successful undersea cable is the same which in 1916 succeeded in transmitting human speech across the Atlantic Ocean to the Eiffel Tower and to Hawaii. Those demonstrations, however, were not a practical success, and it was Col. Carty who declared that an undersea cable from the Pacific shore to Catalina Island would be more practical and economical than the radio. Therefore, for some time to come, although experiments in wireless telephony will continue, the greatest dependence will be placed on the undersea cable.

Two experimental stations for radio transmission and receiving have been erected on the Atlantic coast. By means of these stations radio telephone communication has been maintained with ships experimentally equipped plying from Boston to southern ports on the Atlantic coast. During the International Communications Conference held in December a demonstration was given in New York, the steamship *Gloucester* on the Atlantic coast communicating by radio wire across the continent to San Francisco, to Los Angeles, and thence by radio to Catalina Island. The demonstration was successful and the conversation clearly heard by the conference members.

This constitutes a special field for radio telephone which is peculiarly adapted for use between ship and ship, between ship and shore, between airplanes in flight, between airplanes and ships, and from airplanes to the ground—for all purposes where wire can not be used. When so-called static disturbances are absent and other and interfering stations are not operating, good transmission over the radio telephone is obtainable; but radio is not so dependable as wire, nor so economical. Facilities of the ether for the simultaneous sending of numerous messages are so limited that the ether itself can carry but a small part of the enormous volume of the telephone traffic of the world.

On the day of the opening of this commercial telephone, by means of which the farthest little plantation in Cuba can speak to and beyond the borders of Canada and the Far West, it was predicted that within 10 years the southernmost point of Latin America would enjoy the same privilege.



FEDERATION OF THE CENTRAL AMERICAN UNION

FINAL RATIFICATION OF THE TREATY.

THE NATIONAL LEGISLATIVE ASSEMBLY of Guatemala ratified, on April 8, the treaty of federation signed at San José, Costa Rica, on January 19, 1921, by representatives of the four contracting governments, Guatemala, Salvador, Honduras, and Costa Rica.

Since the treaty, to become effective, requires ratification by three of the four signatory Republics, Guatemala's action makes it immediately effective, Honduras and Salvador having already ratified. Costa Rica is expected to ratify before long, but Nicaragua has not as yet expressed her intention to do so. When these two nations join the confederation, the new political entity will rank fifth in population among the nations of Latin America. The actual federation, comprising the three northernmost Republics in Central America, represents a total population of 4,100,000, an area of 101,164 square miles, and a trade with the United States of, approximately, \$45,000,000, annually, imports and exports combined.

A special translation into English, not made in the Pan American Union, from the original text in Spanish follows:

The Governments of the Republics of Guatemala, Salvador, Honduras, and Costa Rica, regarding it as a high patriotic duty to bring about as far as possible the reconstruction of the Federal Republic of Central America upon bases of justice and equality that will guarantee peace, maintain harmony among the States, insure the benefits of liberty, and promote the general progress and welfare, have seen fit to conclude a treaty of union achieving that end, and to that effect have appointed as plenipotentiary delegates, namely: The Government of Guatemala the Most Excellent Licentiate Don Salvador Falla and Don Carlos Salazar; the Government of Salvador the Most Excellent Doctors Don Reyes Arrieta Rossi and Don Miguel T. Molina; the Government of Honduras the Most Excellent Doctors Don Alberto Uclés and Don Mariano Vásquez; and the Government of Costa Rica the Most Excellent Licentiate Don Alejandro Albarado Quirós and Don Cleto González Víquez; who, after communicating to one another their respective full powers which they found to be in good and due form, have agreed upon the following stipulations:

ARTICLE I.

The Republics of Guatemala, Salvador, Honduras, and Costa Rica join in a perpetual and indissoluble union, and will henceforth constitute a sovereign and independent nation, whose name shall be Federation of Central America. It will be the right and duty of the federal power to maintain the union, and, in accordance with the federal constitution, internal order in the States.

ARTICLE II.

The four States will convene through deputies in a Constituent National Assembly, and here and now accept as the supreme law the constitution that may be framed by the said assembly in accordance with the stipulations of this treaty.

ARTICLE III.

In so far as it may be consistent with the federal constitution, each State will preserve its autonomy and independence in the handling and direction of its domestic affairs and likewise all the powers that are not vested in the federation by the federal constitution. The constitutions of the States will remain in force in so far as they do not conflict with the provisions of the federal constitution.

ARTICLE IV.

So long as the federal government, through diplomatic action, shall not have obtained the modification, derogation, or substitution of the treaties in force between the States of the federation and foreign nations, each State shall respect and continue faithfully to observe the treaties that bind it to any one foreign nation or more to the full extent implied in the existing agreements.

ARTICLE V.

The Constituent National Assembly, in framing the federal constitution, will respect the following bases:

(A) There shall be a federal district under the direct rule of the federal government. The assembly will designate and mark out the territory that is constituted and within that area will designate the town or place that is to be the political capital of the federation. The State or States from which territory is taken to constitute the federal district here and now convey it gratuitously to the federation.

(B) The government of the federation will be republican, popular, representative, and responsible. Sovereignty will reside in the nation. The public powers shall be limited and must be exercised in accordance with the constitution. There will be three powers—the executive, legislative, and judiciary.

(C) The executive power shall be exercised by a federal council composed of delegates elected by the people. Each State will elect a principal and an alternate of 40 years of age or more and native citizens of the State which elect them. The term of the council will be five years.

The delegates and their alternates shall reside in the federal capital. The alternates will attend the meetings of the council without a vote, but they shall cast their vote, however, whenever the meeting is not attended by their principals.

In order to impart validity to the action of the council, it is necessary that all the States be represented therein. The decisions are arrived at by a plurality vote, except in cases where the constitution may call for a greater majority. In case of a tie the president will cast two votes.

The council will elect from among the delegates a president and a vice president, whose term of office will be one year. The president of the council can not be reelected for the year immediately following.

The president of the council will be regarded as president of the federation, but he will always act in the name and by a resolution or direction of the federal council.

The council will apportion among its members in the manner it may deem most appropriate the handling of public affairs and may put any one of the alternates or more in charge of a department, or more that it may deem expedient. The constitution will determine the form in which foreign relations are to be conducted and will complete the organization of the executive power.

(D) The legislative power will be vested in two houses—the Senate and the Chamber of Deputies. The Senate will consist of three senators from each State, elected by the congress thereof. The senators shall be 40 years of age or more and citizens of any one of the States. Their term will be six years, and they will be renewed every other year in thirds. The Chamber of Deputies will consist of representatives elected by the people, one deputy for every 100,000 inhabitants or fraction of more than 50,000. The constituent assembly will determine the number of deputies to be elected by each State until a general census of the federation is taken.

Senators and deputies may be reelected indefinitely. In each house three-fourths of the whole number of members will form the quorum.

No law will be valid unless it has been approved in the separate houses by a plurality of votes in the Chamber of Deputies and by two-thirds of the votes of the senators, and unless it has been sanctioned by the executive as the federal constitution may provide.

(E) The judicial power shall be exercised by a supreme court of justice and by the lower courts that may be established by law. The Senate, from a list of 21 names submitted by the federal executive, will elect 7 incumbent magistrates, who will constitute the court, and 3 alternates to fill the temporary absence of the incumbents.

Vacancies will be filled by new elections of incumbents or alternates. The magistrates shall not be removed from office unless the removal be authorized by a judicial sentence.

The supreme court will have jurisdiction in disputes to which the federation is a party, the legal controversies that may arise between two or more States, the conflicts that may occur between the powers of any one State or of the federation as to the constitutionality of their acts, and of all other matters which may be referred to it by the federal constitution or the organic law.

The States having pending questions among themselves as to boundaries or the validity or execution of judgment or awards made before the date of this treaty will be at liberty to refer them to arbitration. The federal court may take cognizance of such questions, in the capacity of arbitrator, if the States concerned should refer to its decision.

(F) The federation guarantees to every inhabitant freedom of thought and conscience. There shall be no legislation on religious subjects. In all the States toleration of cults that are not against morals or public policy shall be an obligatory principle.

(G) The federation recognizes the principle that human life is inviolable as to political and like offenses, and guarantees all men equality before the law and the protection that the States must grant to destitute classes as also to the proletariat.

(H) The federation guarantees the freedom of teaching.

Primary instruction shall be compulsory, and that which is given in public schools shall be free, under the direction and at the expense of the States.

Colleges of secondary instruction may be founded and supported by the federation, the States, municipal governments, and private persons.

The federation will create as soon as possible a national university, and will give preference, with regard to their early establishment, to the sections of agriculture, industry, commerce, and mathematical sciences.

(I) The federation likewise guarantees in every State the respect of individual rights, as also the freedom of suffrage and the rotation in power.

(J) The army is an institution intended for national defense, and the maintenance of peace and public order. It is essentially a passive body and may not engage in debates.

Soldiers on active duty shall have no right to vote.

The army will be exclusively under the orders of the federal council. The States shall not maintain any force other than of police for the maintenance of public order.

The garrisons which may be kept permanently or temporarily by the federation in any State will be under the command of national chiefs that the council shall freely appoint and remove; but if in any State there should occur a subversive movement or serious grounds may exist to apprehend a grave disturbance, those forces shall place themselves at the command of the government of the State. If those forces should be insufficient to suppress the rebellion, the government of the State will ask for and the council will supply adequate reinforcements.

Military service, garrison duty, and military instructions will be regulated by law so as to be governed by fixed rules.

The council shall have the free disposal of the armament and war material that may now exist in the States after those States shall have been supplied with the amount needed for the police force.

The States acknowledge it to be necessary and expedient that the federation should reduce armaments and armies to the strictly necessary, so as to release hands to farming and manufacturing and to restoring and promoting the common welfare the excessive amounts taken by that branch.

(L) The federal government will administer the national public finances, which will be different from those of the States.

The law will create federal revenues and taxes.

(M) The States will continue the service of their present domestic and foreign debts. It will be the duty of the federal government to see that the service is faithfully performed and that the revenues pledged for that purpose be applied thereto.

Henceforward none of the States shall contract for or issue foreign loans without being authorized by a law of the State ratified by a federal law, nor shall it enter into contracts that may in any way compromise its sovereignty or independence or the integrity of its territory.

(N) The federation shall not contract for or issue foreign loans without being authorized to do so by law approved by two-thirds of the votes in the Chamber of Deputies and three-fourths of the votes of the Senate.

(O) The constitution may set a term after which the ability to read and write may be set up as an essential requisite for the exercise of the right of suffrage in the elections of federal authorities.

(P) The constitution will lay down the course through which amendments of its dispositions may be ordered. However, if the reform should make any change in any one of the bases set forth in this article, it will be absolutely necessary in addition to the other general requirements of the constitution that the legislatures of all the States shall give their consent.

(Q) The constitution will determine and specify the subject that shall be an exclusive matter for federal legislation.

The Constituent National Assembly, in framing the constitution, will complete the plan and purpose of the said constitution, developing the foregoing bases, but in no way conflicting with them.

Immediately after the enactment of the constitution the assembly will pass the complementary laws concerning the freedom of the press, habeas corpus, state of siege, which shall be held as part of the federal constitution.

ARTICLE VI.

The Constituent National Assembly referred to in article II of this treaty will consist of 15 deputies for each State that will be elected by their respective congress. In order to be a deputy one must be 25 years old or more and a citizen of any one of the five States of Central America.

The deputies shall enjoy immunity for their persons and property from the moment when they are declared elected by the congress of a State until one month after the sessions of the assembly are closed.

ARTICLE VII.

Three-fifths of the total number of deputies will form a quorum of the assembly. The vote will be cast by States. If one or more deputies of one State should be absent, the deputy or deputies present will assume the complete representation of the State. If the deputies of one State should disagree, the vote of the majority of the deputies will be regarded as the vote of the State, and in case of a tie, it will be regarded as concurring in the majority vote of the other States; or, if there should be a tie, among those States themselves, that which agrees with the majority of the personal votes of the deputies. The decisions of the assembly will be taken on a majority vote of the State.

ARTICLE VIII.

For the performance of these stipulations, there is instituted here and now a Provisional Federal Council consisting of a delegate from each State. The said council will take charge of the duty and ordering all the measures preliminary to the organization of the federation and its initial government, and especially that of calling the Constituent National Assembly; of promulgating the constitution, constituent laws, and other resolutions passed by the assembly; to issue appropriate orders to have the States elect in good time their delegates to the council, Senate, and Chamber of Deputies; and, finally, to give possession to the federal council, whereupon its functions will terminate.

ARTICLE IX.

Delegates to the provisional council must be 40 years old or more and citizens of the State by which they are elected. They will enjoy immunity for their persons and property from the moment when they are elected until one month after they retire from their office. They shall, in addition, enjoy in the State where they perform their duties all the privileges and immunities which by law or usage are granted to the heads of diplomatic missions.

ARTICLE X.

The congress of each State, immediately upon approving this treaty, shall elect the delegate that belongs to it in the provisional council, and through the proper channel give notice of that election to the Central American International Office. That office in turn will communicate to the governments and also to the elected delegates the fact of its having received the ratification of three States, to the end that within the time stated hereafter the delegates may meet and begin their labors.

ARTICLE XI.

The provisional federal council will meet in the city of Tegucigalpa, capital of Honduras, not later than 30 days after the third ratification of this covenant shall have been deposited in the Central American International Office.

ARTICLE XII.

In order to impart validity to the acts of the provisional council the presence of not less than three delegates will be required.

ARTICLE XIII.

The provisional council will elect a president and a secretary, who will sign all the papers needed. The correspondence shall be conducted by the secretary.

ARTICLE XIV.

When the fourth ratification takes place the Central American International Office or the provisional federal council, if still in session, will call upon the delegate concerned to join the provisional council.

ARTICLE XV.

The congress of each State at the same time it elects its delegate to the provisional council, in accordance with the provision in Article X of this treaty, will elect the deputies to the constituent assembly that belongs to the State.

ARTICLE XVI.

After the deputies to the constituent assembly shall have been elected, the minister of foreign relations of the State concerned will so notify the Central American International Office and issue the proper credentials to the deputies that have been elected.

ARTICLE XVII.

After the Central American International Office shall have informed the provisional federal council of the election of the deputies by at least three States, the provisional federal council shall call the constituent national assembly so that it may organize in the city of Tegucigalpa on the date set by the decree calling the assembly, which shall be made known by telegraph to the ministry of foreign relations of each State and to each deputy individually not less than 30 days in advance. The provisional council shall see that the constituent assembly shall organize not later than the 15th of September, 1921, which is the centennial of the political emancipation of Central America.

ARTICLE XVIII.

It will be sufficient that three of the contracting States ratify this treaty to have it considered as final and binding among them and to have it carried into effect. The State that should not approve the covenant may, however, join the federation at any time it applies therefor, and the federation will admit it without any other formality than the presenting of a law approving this treaty, the federal constitution, and constituent laws. In that event the federal council and the two legislative houses will be enlarged in the proper degree.

ARTICLE XIX.

The contracting States are sincerely sorry that the sister Republic of Nicaragua does not desire to join the federation of Central America. If the said Republic should later decide to join the union, the federation will extend the greatest facilities for its joining in the treaty that may be made for that purpose. In any event, the federation will continue to consider and treat her as a part of the Central American family, just as it will any State that for any reason should not ratify this covenant.

ARTICLE XX.

Each State shall deliver to the provisional council the moneys that may be named by it to defray the expenses incurred in the discharge of its mission, and will determine and pay their salaries to the several constituent deputies.

ARTICLE XXI.

The present treaty shall be submitted in each State as soon as possible to the legislative approval that its constitution may require, and the ratification shall be immediately notified to the Central American International Office, to which a copy will be sent in the customary form. On receipt of the copy of that ratification the aforesaid office will so advise the other States, and the notice will be held and will have the same value as an exchange.

Done at San Jose, Costa Rica, in quadruplicate, on the 19th day of January, 1921.

THE INTERNATIONAL TRADE SITUATION IN SOUTH AMERICA¹ . .

BY WILLIAM C. WELLS, *Pan American Union Staff.*

TO appraise the present status of South American international trade it is necessary that we have a correct understanding of what this trade was before the war, what had been its development, and what its tendencies were. More than all, we must understand what was its economic base. Four-fifths of the trade was with the countries that took part in the Great War; nine-tenths, if we do not count the noncompetitive and the interstate trade. The war produced temporary changes in the currents of South American trade and industry, and some of these may prove to be permanent.

Complete returns for working out the percentages of 1920 can not yet be assembled, but partial reports make it certain that no material change in the current of trade has occurred since January 1, 1920.

Before the war about two-thirds of South America's exports were to Great Britain, the United States, Germany, and France. Leaving out the interstate frontier exports, which are only in a technical sense international, practically the whole export trade was to the United States and western Europe and nearly 90 per cent to the four countries mentioned. It could not be otherwise, for these were the great manufacturing countries which alone could utilize the raw industrial products of South America. Europe, especially Great Britain, was the locality where the raw-food products were required.

On the other hand, South America needed manufactures of all kinds. Outside of a few food deficiencies in certain countries, supplied in the main by neighboring countries, the only imports of South America were of manufactures, so that the countries to which their raw products went were the same and the only countries from which the imports came or could come.

The war produced certain changes in the distribution of exports and imports, but it did not and could not alter the essential fact that the United States and western Europe were the only sources from which South America drew its needed supplies and the only markets

¹ Reprinted from the *Annals of the American Academy of Political and Social Science*. March, 1921.

wherein to sell its produce. Here and elsewhere in this article Canada is viewed as an economic extension of the United States (or of Great Britain, if one so chooses).

South American trade with principal countries.

IMPORTS.

Year.	Great Britain.	France.	Germany.	United States.	Total for the four countries.
	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>	<i>Per cent.</i>
1912.....	28.27	8.74	18.65	15.97	71.63
1913.....	27.98	8.77	18.51	16.41	71.67
1914.....	28.60	7.03	19.88	17.60	70.17
1915.....	23.85	4.88	.....	29.87	58.60
1916.....	23.61	5.17	.....	38.23	67.01
1917.....	19.44	4.48	.....	43.85	67.77
1918.....	22.10	4.35	.....	37.65	64.10
1919.....	20.15	3.53	.30	41.92	65.90

EXPORTS.

1912.....	22.91	8.81	13.31	20.98	66.01
1913.....	24.31	9.05	13.95	17.61	64.92
1914.....	28.39	7.55	9.93	25.64	71.51
1915.....	25.33	8.12	.....	28.91	62.36
1916.....	15.43	11.17	.....	36.00	62.60
1917.....	22.82	10.27	.....	42.19	75.20
1918.....	28.44	9.38	.....	34.07	71.89
1919.....	23.45	13.53	.20	34.40	71.58

If the war had gone to the extent of producing a débâcle of social and economic organization in the United States and in England, France, Belgium, and other countries of western Europe, all the countries of Latin America would have been thrown back upon themselves. There would have been no market for the sale of their produce nor any competent to supply their needs. But the war did not produce such an effect, and we who are optimists do not believe that it will, notwithstanding what has happened in Russia and the partially disorganized state of Germany. Yet the war did to a certain extent throw Latin America back on its own resources, but not to any great degree nor so much as is generally believed. It was difficult to secure all that was needed even at the advanced prices. Some things at times were not procurable at all, and the market for some products, coffee and nitrate, for example, was at times restricted. The result was to give a stimulus to manufacture, especially of textile goods, and to lessen production of exportable products when markets were restricted. But neither increased manufacture nor decreased agricultural and mining production assumed more than minor proportions. The large movement was the other way toward stimulated agricultural and mining production and an increasing dependence on the United States and western Europe for manufactured products.

In the main these demands were met. South America increased, as far as it could, the exportation of food of the same kinds it had

always exported, but—and this is the more significant fact—it began the exportation of foods it had not theretofore exported or produced, such as beans and dairy products, and it extended the area of its meat and grain production. The war gave a start in South America to a more diversified agricultural and grazing industry. In fact, the impulse was and is felt in all of its industries. But on the whole, the effect was not, and will not prove to be, any weakening of the interdependence of South America on one side and the United States and western Europe on the other. Rather the two sides have become to a larger degree complementary.

In the distribution of the trade there were many changes. Germany and the countries of the German group were shut off, not, of course, because of any economic fact or reason, but by the stern decree of the allied and opposing powers who ruled the seas. Not all the German trade was shut off, a very considerable trickle passed back and forth through Holland and the Scandinavian countries. However disturbing this last fact was to the war offices of the Allied powers, it in no way affected the economic situation of South America.

Many factors enter into the problem whether a country or a great section of the world is self-sustaining, or may become so in the event of great stress such as the war brought about. Under modern conditions no locality, not even the most inaccessible portion of the globe, is strictly speaking self-sustaining. Civilization tends toward making the world more and more interdependent. Nevertheless, certain countries could maintain a more or less even tenor of individual life, although an impenetrable curtain were dropped to shut them off from all the rest of the world. Such a country is the United States or China. In a lesser degree Germany and France under the same condition might maintain their industrial and social civilization without radically destructive changes.

On the other hand, the whole foundation and superstructure of industrial and social life of Great Britain or of Argentina would be uprooted and cast down if the country were thrown back upon itself. A very little reflection will show the soundness of the observation and account for what at first glance may appear a fanciful grouping of the United States and China, and Great Britain and Argentina. Among the highly developed industrial countries, especially of high manufacturing development, the United States is, in the matter of self-dependence, at one pole and Great Britain and Belgium at the other, with France and Germany between. Among the undeveloped or slightly developed countries, and again with special reference to manufacturing industry, China is in the main independent, because its standard of living has not yet advanced to the point of requiring much of what it does not itself produce. Like the United States, it is

independent, but for a different reason. South America is like England in that it has built its house upon the foundation of having and using what it does not produce. It is also like England in that it produces large excesses of the things which it does produce. In the matter of dependency on foreign trade, therefore, South America stands with England, although its industry is the exact antithesis of England's.

To have shut South America off during the war would have caused almost as disastrous an effect there as would have been caused in England had Germany succeeded in maintaining an impenetrable submarine cordon around the British Isles. It would, when the reserve stock of foreign goods was exhausted, have thrown all South America back to the stage of primitive agriculture, living from hand to mouth. Large production would have ceased, the mines not have produced, the herds of cattle would have starved or wandered away to the forest, the wheat and corn lands would have lain fallow, coffee plantations would have grown to brush, the cities would have emptied, the railroads would have ceased to operate, and only the simple handicrafts would have functioned; for the mines, the great herds of cattle, horses, and sheep; the broad stretches of waving corn, wheat, flax, and oats; the thousands of miles of green coffee trees in rows; the plantations of cacao, the mountains of rubber gathered from the forests; the innumerable bales of hides, skins, and wool that crowd the docks; all exist and have been called into being to supply a foreign demand. A tithe, or a tithe of a tithe, of these things would supply South America's own needs, but none of them, nor all together, respond to the need for machinery, tools, railway supplies, hardware, and the thousand and one other articles of modern civilization which South America must have but does not make and can not improvise.

The war threw into high relief the dependency of South America on foreign trade, incoming and outgoing, but it did not alter or appreciably decrease this dependency. What little it gained in independency by enlarged manufacture was more than offset by increased production of the exportable products. Furthermore, it is more than doubtful whether increasing manufacture in South America at the present time, or for a long time to come, does or will lead to a lesser dependence on foreign imports. It broadens the field, creates a demand for more tools and appliances, and for raw material as in the case of cotton. Especially does it create a demand for the secondary materials of manufacture, the trimmings, the fastenings, the ornamentation, the chemicals, in short, all of what one may call the fluxes of manufacture.

Not only did the war not lessen the dependency of South America on foreign trade; it did not radically upset the destinations and

derivations of this trade. At the most it was a shifting within identical groups. The chief and only considerable source of South American imports was the group of the United States, Great Britain, France, Germany, and Belgium, and this group was the same that received South American exports. In general, Spain, Italy, Austria, Holland, the three Scandinavian countries, and all others appearing in the statistical tables as having a part in South American trade, did not enter seriously into the problem of competition. Either their trade was specialized, or it was small, or it was transit.

With all the members of the chief group engaged in a life and death struggle that taxed and strained to the utmost their resources, it might have been expected that the countries of the second group, who remained neutral, would have captured the South American trade. Such has been the result of past wars and such some persons anticipated would be the result of this war. These persons failed in understanding that while Sisyphus might roll a great stone it was Atlas alone who could bear the burden of the world. Spain, Holland, and the other neutrals did not capture South American trade simply because they could not carry the load. They had not the industrial plant sufficient to handle more than a very small fraction of South American produce, nor could they from their own production supply the volume and almost infinite variety of South American imports. They had not the skill, the organization, the material, nor the personnel for such an undertaking. Their industries were constituted to meet lesser requirements. They did increase their trade up to the limit of the possible, but the chief increase was a more or less disguised transit trade to the belligerent countries of the main group.

The chief effect of the war was a shifting within the main group. Belgium entirely and Germany almost entirely were shut off. Imports from England and France decreased, and exports of food products to the same countries remained the same or increased. Exports of industrial raw materials to France and England decreased. The slack in every case was taken up by the United States. What the other members of the group, including Germany and Belgium, or what the neutral group could not supply the United States did. What they could not buy, it bought. There was much talk in Europe and in South America of unfair advantages taken. Here there was a complementary and provocative outcry from a like class that may be epitomized in one phrase, "Now is our opportunity." In truth on both sides it was puerile chatter having no regard to the actualities of the case. The war threw all international selling to the passive side. He who had goods to sell did not need to cry his wares. The buyer came to him. South America, which had always been both a passive seller and a passive buyer, remained passive as to selling, but

it became active as to buying. Not only South America but all the world was in the mad rush to buy. Argentinian, Briton, Frenchman, and Hollander, armies, navies, Government boards, civilians, all were in a scramble to buy, buy. The seller, he who had, was in the saddle; all others trailed at his bridle rein. He was not thinking of "opportunities" in the future. His opportunity was the present and he drove it to the limit. At the end the one enduring thought that remained in the mind of the buyers was resentful. This is why South America now cries loudly for the return of German trade. It feels that although it was not in the war it has been made to pass through the Caudine Forks.

The resentment is chiefly toward the United States, but in a lesser degree toward England. The angry feeling will cool, but it exists and must be reckoned with. South America will come to appreciate the fact that the same causes that drove the prices up on what it had to buy also drove them up on some things it had to sell. It will understand that economic dependence is correlative.

Before the war the exports of the 20 Latin American Republics to the United States (in 1913, \$478,000,000) was not far from being equal to the exports to both Great Britain and Germany (\$330,000,000 and \$192,000,000). Leaving out the exports of meat and grain from Argentina and Uruguay, which the United States did not need, and which therefore did not enter into the competitive trade, and leaving out also the interstate trade, the exports of industrial raw materials (including wool, hides, tallow, and other by-products of the meat industry, and including also tropical foods, cane sugar, coffee, cacao, fruits, etc.) to the United States were greater than the exports to Great Britain, Germany, and France combined. After the close of the war (1919) France remained at about the same proportion and the United States and Great Britain together had taken over exports to Germany increasing their proportions to this extent but not changing their relative standing to each other, about 2 to 1.

South American international trade.

EXPORTS.

Year.	United States.	Great Britain.	Germany.	France.
1913.....	\$222, 225	\$281, 988	\$162, 026	\$104, 971
1919.....	760, 546	518, 410	.....	239, 232

IMPORTS.

1913.....	\$167, 523	\$285, 555	\$188, 900	\$89, 520
1919.....	563, 457	270, 923	.....	47, 599

On the import side before the war (1913) for the 20 countries, the United States and Great Britain ran nearly together (United States, \$331,000,000; Great Britain, \$323,000,000), with German about two-thirds of the British and French one-half the German trade. At the close of the war imports from the United States stood three and one-half times the imports from Great Britain (1919, United States, \$1,011,548,000; Great Britain, \$294,313,000).

The preponderance of the United States in South American trade was not and is not nearly so great. Although on the export side it took more of South American industrial raw material and tropical foods than did England and twice as much as did Germany, yet it was behind England in the whole export field and only 25 per cent ahead of Germany, and on the import side it was behind both countries. The German trade for 1919 was inconsiderable and in many cases not statistically differentiated.

Allowance must be made in comparing the figures of 1913 and 1919 for advances in prices. On a quantity basis 222,000,000 and 760,000,000 of exports compare about 1 to 2. So in imports 167,000,000 and 563,000,000 represent, not 1 and $3\frac{1}{2}$, but about 1 and $2\frac{1}{4}$.

Since the war South America has exported a much larger percentage of its products to the United States, and it also has exported more to England and to France. But it has decreased its imports from the last-mentioned countries and makes up the difference in very much larger imports from the United States.



DAIRYING IN VARIOUS COUNTRIES

HISTORY OF DAIRYING.

IN spite of the fact that the cow, together with other animals, was domesticated probably some 5,000 or 6,000 years ago, the production and sale of milk and milk products has not long been an industry, nor is it an industry in all countries at the present time. The use of milk products, which began at that early period, has continued and spread throughout the world, and the milk of many animals, including that of the mare, camel, yak, zebu, goat, sheep, buffalo, and reindeer, is now used for human food. The use of milk products spread through Europe and Asia at a time and in a manner unknown, but there are still large portions of Africa where the milk of animals is not used at the present time. Cattle were introduced into South and North America not many years after the discovery of America by Columbus, and it appears certain that before this time the Aztecs and Indians had no knowledge of the use of milk of animals as a human food.

Some of the cattle which were first brought to the Western Hemisphere were permitted to become wild, and as they multiplied very rapidly there were, in the course of time, large herds of them in South America and in the western part of North America. These cattle were suitable only for beef and were not profitable for milk production. They constitute the "scrub" or "native" cattle of the Americas, and the introduction of pure-bred sires into these herds has produced the "grade" cattle of the various breeds.

In Asia and Europe, as the cattle were gradually spread over the countries, milk products came more and more into use, and breeds of cows were developed which gave large quantities of milk. This was true at an early period in Greece, Switzerland, the Netherlands, and France. The islands of Jersey and Guernsey, just off the coast of France, became very noted for cows giving a large quantity of rich milk. The two breeds of cattle which obtained their names from these islands are known wherever dairying is well developed. Most of the cows used for dairying purposes in the various countries are cows which are the result of development of the native stock. Canada, Australia, New Zealand, South Africa, and Argentina, however, began their development after the various breeds of dairy cattle had been well developed, and therefore their advance in the dairy industry has been more rapid than that of other countries.

Until near the close of the eighteenth century the manufacture of products of milk was carried on as a part of the farm work, especially as a part of the work of the women. The women took care of the milk and made cheese and butter. Soon after the men became engaged in the development of the industry, machinery came into use, methods were standardized, and the factory system inaugurated. This development, which is most noticeable after 1850, gave the industry much encouragement and its growth from that date is really marvelous.

PRESENT CONDITIONS IN VARIOUS COUNTRIES.

India (including British and Native States) maintains more cattle than any other country, with the United States second, Russia (territory prior to the war, including Siberia) third, and Brazil fourth. India in 1914 had 157,278,000 head; the United States in 1920 had 68,232,000; Russia in 1914 had 53,625,000; and Brazil in 1914 had 30,705,000.

The number of cattle in any country does not necessarily indicate the degree of development of dairying, but where cattle can be maintained economically dairying will follow and remain fixed as a great source of food.

India.—India has never turned to dairying so extensively as might have been expected, for the reason that a large portion of her population are vegetarians and do not use milk or meat. The remaining portion of the population, however, make and consume large quantities of milk and milk products. "Ghee," or clarified butter, is one of the principal products of that country. The natives who use milk depend very largely upon their cows for food, and as the European war has broken down much of the prejudice against the use of milk and other dairy products among the Hindoos, greater and greater quantities of condensed milk are being imported.

The Netherlands.—Among the earlier countries to turn to dairying was the Netherlands (Holland). That little country with much of its land below the sea level has for more than a thousand years maintained its black and white cows noted for their large yield of milk. The Netherlands have exported milk products for centuries. The records show that exports of cheese exceeded 50,000,000 pounds for the year 1850—all farm made. The two principal types of cheese are Edam and Gouda. The exports of cheese amounted to about 200,000,000 pounds in 1916, while the butter exported in the same year was 79,000,000 pounds. The production and exportation of both butter and cheese have been quite pronounced since 1890. One-third of the butter and about one-half of the cheese are made on farms.

BUTTER PRODUCTION AND EXPORTS

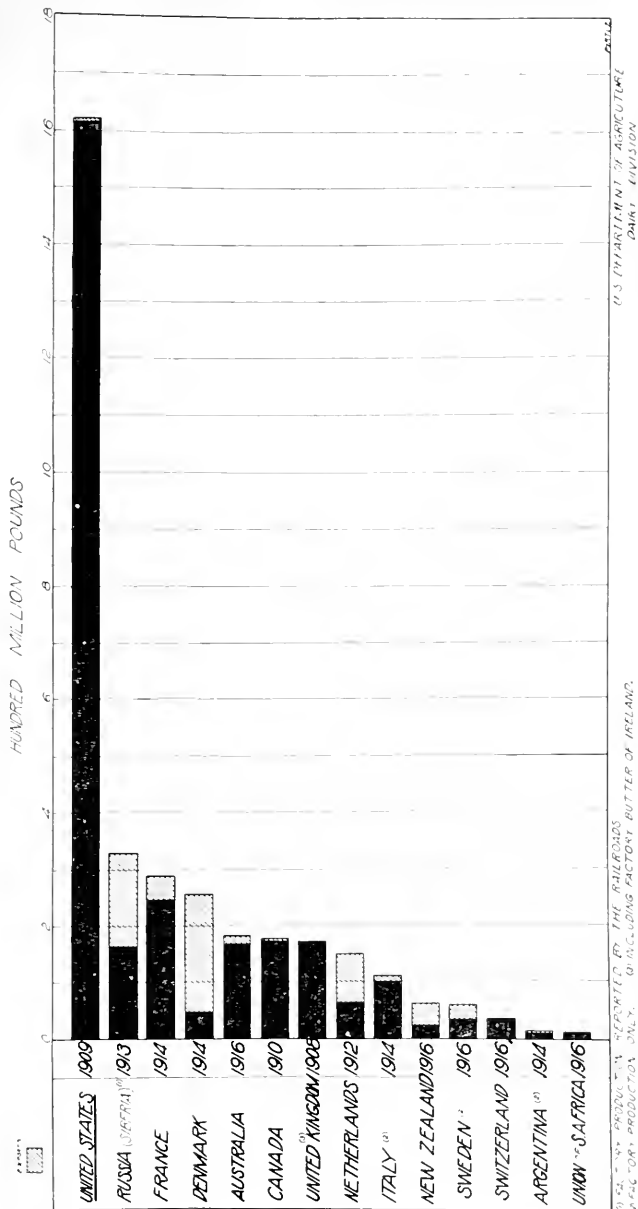


FIG. 1.—CHART SHOWING AMOUNT OF BUTTER PRODUCED AND AMOUNT EXPORTED BY VARIOUS COUNTRIES.

One of the principal features of dairying in the Netherlands is found in the large cooperative plants, which are equipped with machinery suitable for making any kind of milk product according to the demands of the market.

United Kingdom.—For many years the United Kingdom of Great Britain and Ireland has been noted for its fine cattle of both beef and dairy types. The number of cattle in the Kingdom (12,491,427 head in 1919), has not increased much since 1875, yet the demand for dairy products during normal times is probably greater in that country than in any other in the world. Whole milk for consumption is supplied by home production, but the cheese and butter production is far short of the demand. The average production for 1909 to 1913 was 282,000,000 pounds of butter and 89,000,000 pounds of cheese; that is to say, there was a production of 37.7 per cent of the butter consumed and only 25.3 per cent of the cheese consumed, the remainder being imported.

As a producer of milk products the United Kingdom is in the front rank, and as an importer of dairy products it is the greatest market in the world. The imports of butter averaged for the period 1909 to 1913 more than 460,000,000 pounds per year, and the cheese imports averaged 265,000,000 pounds per year for the same period. The imports of butter on this market diminished, during the European war, to about 175,000,000 pounds, but the cheese imports increased to over 300,000,000 pounds.

Condensed milk is also imported into the United Kingdom in large quantities. The imports of this product increased from 92,000,000 pounds in 1900 to 356,000,000 pounds in 1919. In addition to the imports of condensed milk there is also a large quantity manufactured in that country. The milk powder consumed in the United Kingdom is mostly imported and amounts to about 5,000,000 pounds a year.

Importations of butter and cheese have made the greatest increases within the last 25 years. The great decrease in importations of butter during the European war was due to the inability of the government to get butter shipped to England. There was a shortage of butter produced in the world of perhaps 300,000,000 pounds, and most of this shortage continues at the present time.

United States.—The United States with its 25,000,000 dairy cows is a great producer of milk products. The average yield of milk of these cows is estimated at 4,000 pounds a year. The principal dairy breeds are Jersey, Guernsey, Holstein-Friesian, and Ayrshire, but the vast majority of milk cows is composed of grades and natives.

While dairying has spread over all the States the greatest development has taken place in the northern sections and on the western coast. The butter factories are principally in the North Central

PRODUCTION AND STORAGE OF FACTORY BUTTER

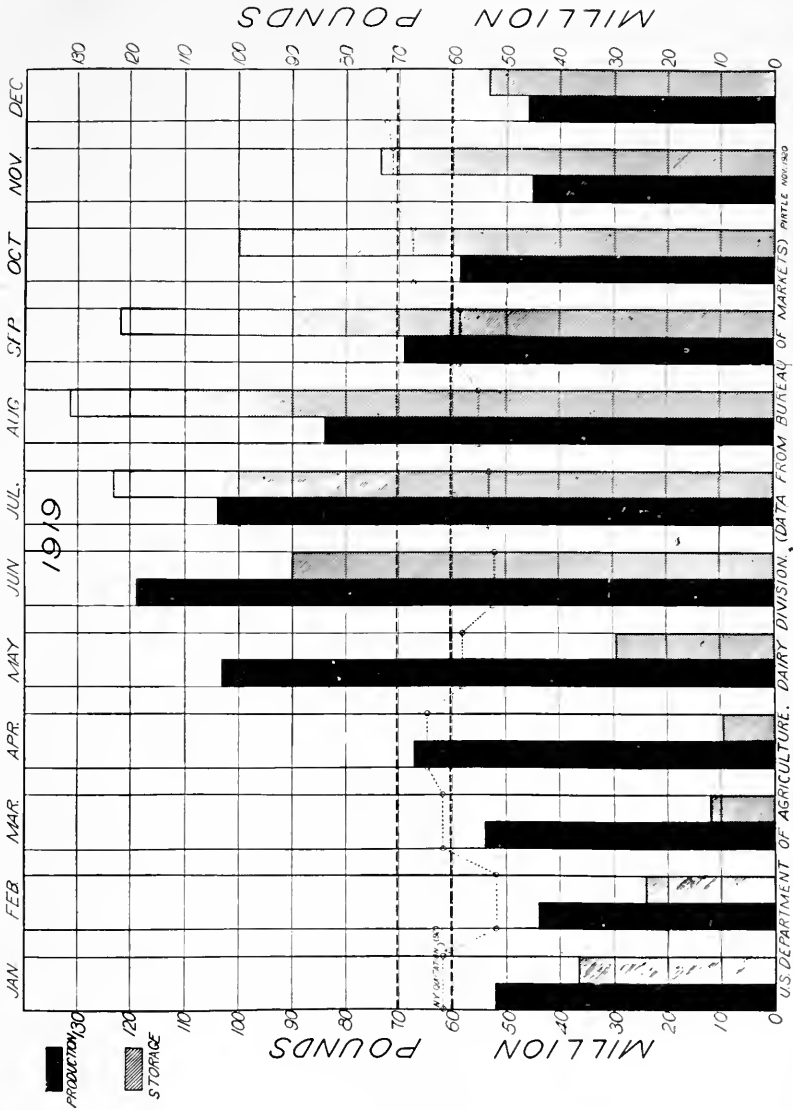


FIG. 2.—CHART SHOWING THE PRODUCTION OF CREAMERY BUTTER IN THE UNITED STATES AND THE PROPORTIONATE AMOUNT PLACED IN STORAGE, BY MONTHS, IN 1919.

States, while cheese factories are located mostly in the States of Wisconsin, New York, Ohio, Michigan, California and Oregon. Milk condenseries are located largely in New York, Wisconsin, Illinois, Michigan, and Oregon.

The principal markets are New York, Chicago, Boston, Philadelphia, and San Francisco.

The following table shows the quantities of milk used for various purposes in the United States during the year 1919.

TABLE 1.—*Use of milk.*

	Quantity of product, 1919.	Total milk used.	Per cent (approximate).
	<i>Pounds.</i>	<i>Pounds.</i>	
Creamery butter.....	875,000,000	18,375,000,000	20
Farm butter.....	685,000,000	14,385,000,000	16
Cheese, all kinds.....	420,000,000	4,200,000,000	4 $\frac{1}{2}$
Condensed milk.....	1,925,000,000	4,813,000,000	5 $\frac{1}{2}$
Whole milk powder.....	9,000,000	72,000,000	.....
Powdered cream.....	670,000	12,000,000	.....
Malted milk.....	18,000,000	40,000,000	.....
Sterilized milk (canned).....	4,500,000	5,000,000	.....
Ice cream (estimated)..... gallons.	230,000,000	3,450,000,000	4
Oleomargarine*.....	371,000,000	87,000,000	.....
Household purposes.....	.....	38,619,000,000	43
Feeding calves.....	.....	3,500,000,000	4
Waste, loss, etc.....	.....	2,500,000,000	3
Total.....	.....	90,058,000,000	100

* Milk and cream used in the manufacture of oleomargarine.

Figure 1 shows the quantity of butter produced and exported by various countries. The total yearly production in the United States is about 1,558,000,000 pounds. The exports of butter, except during abnormal seasons, seldom exceed 5,000,000 pounds. It will be noted, however, that some of the countries export more than half of their production.

Prior to the European war the consumption of cheese in the United States exceeded the production by more than 60,000,000 pounds.

Figure 2 shows the relation of the production of creamery butter to the amount placed in storage during the year 1919. The average monthly consumption of creamery butter in the United States is about 70,000,000 pounds. The chart shows that during the season of greatest production the consumption is exceeded by the production. The surplus, therefore, must go into storage or export, but as it will be needed during the winter season it is placed in storage to be released as the production decreases.

Canada.—Dairying is one of the oldest and most important of the Canadian industries. Small herds of cattle were brought from France as early as 1610, as it was a common practice in those days to carry cows on ships to furnish milk for the passengers. At the present time there are many herds of purebred cattle in all parts of Canada, with Holsteins and Ayrshires predominating. The total of milk cows in



A MODERN CREAMERY AT GROVE CITY, PA.

Here are made large quantities of sweet cream butter, as well as Swiss, Roquefort, and other fancy varieties of cheese.

Canada in 1919 was 3,547,437 head. The first cheese factory was established in 1864 and the first creamery in 1873. In 1919 the number of cheese factories was 1,895 and of creameries 924, while there were also 610 combined factories which made both butter and cheese.

The production of cheese in Canada increased faster than the other branches of the industry and reached 100,000,000 pounds about 1890 and 200,000,000 pounds before 1900. After 1900 the production of condensed milk and the use of more milk and cream in the household caused the production of cheese gradually to decrease; in 1919 it had fallen to 167,000,000 pounds. Practically all of the cheese manufactured in Canada is of the Cheddar type and the surplus is marketed in England. The production of butter on farms and in factories has generally increased. The farm butter made has varied around 100,000,000 pounds since 1880, and the factory butter produced just reached 100,000,000 pounds in 1919. A more rapid development in butter and cheese production is predicted for the western or prairie country.

Small quantities of butter and cheese have been exported from Canada for many years, but it was not until after the establishment of the factory system in 1864 that the volume of dairy exports began to assume large proportions. The exports reached a maximum of 34,128,944 pounds of butter in 1903, and 233,980,716 pounds of cheese in 1904. The exports of dairy products for the year ended March 31, 1920, were as follows: Butter, 17,612,603 pounds; cheese, 126,395,777 pounds; condensed milk, 54,247,498 pounds; fresh cream, 795,780 gallons; and fresh milk, 1,985,113 gallons, reaching in value a total of \$56,398,083 for the year.

The production of condensed milk, which increased greatly during the war, reached the maximum in 1918, the quantity produced that year being 79,312,576 pounds. The production in 1919 was 78,006,237 pounds and the quantity of milk powder made in that year was 6,591,099 pounds. There are 13 condensed milk factories and 3 milk powder companies with 8 plants and 10 receiving stations.

Assistance to the dairy industry is provided by both the federal and provincial governments. Ontario and Quebec are the leading Provinces, but the greatest expansion is expected to be in Saskatchewan, Alberta, and Manitoba.

Australia.—The total number of cattle in Australia exceeds 10,000,000 head, but the number of dairy cows has never reached 2,000,000. This indicates that the beef industry is far more important than the dairy industry in that country. The butter production in 1917-18 on farms and factories was more than 200,000,000 pounds, the cheese production was more than 27,000,000, and the condensed and powdered milk production was 56,000,000 pounds. Their market is the United Kingdom. The yield of milk per cow for 1916 was

2,719 pounds. The industry is developing rapidly and each year more attention is given to dairying.

New Zealand.—Dairying in New Zealand was not of much importance until after 1900. Since that date the development has been rapid. In 1918 the factory production of butter was 47,494,720 pounds and of cheese 117,653,760 pounds, and there were 185 butter factories and 420 cheese factories in the Dominion.

Dairying in New Zealand is carried on in a little different manner than in most countries. The cattle are allowed to run on pasture the year round and are milked in open sheds. It is estimated that over 70 per cent of the milk is drawn by milking machines. The manufacturing plants are generally owned cooperatively and the products are marketed by the association. The manufacture of condensed milk and milk powder received attention during the last few years. According to the report of the industrial committee the annual yield of butter fat per cow has increased from 142 pounds in fiscal 1910-11 to 161 pounds in that of 1916-17.

All dairy factories in New Zealand are registered with the department of agriculture. When application for registration is made an inspector makes an investigation to determine if the building and equipment are up to the standard of sanitation, water supply, drainage, and other requirements. All the products must be branded and each brand officially approved by the government when the output is for export. The butter export season lasts about nine months, usually beginning about August and ending the last of April. Prior to the products leaving the country each package must be marked on both ends with the date of churning and the number of the vat of cream from which it was made. When it reaches the grading store one box of each churning is opened for inspection by the government inspector. Butter for export must contain less than 16 per cent of moisture. The average moisture content of butter in 1913 was 14 per cent. The principal market for all New Zealand dairy products is the United Kingdom.

Denmark.—Denmark is a great producer of milk and butter, but the quantity of cheese made is practically just sufficient for the home demand, and the condensed milk export is not large. The country has developed a native red cow which, under normal conditions, gives about 6,000 pounds of milk annually. Holstein cows also are kept in certain areas of Denmark. The number of dairy cows in 1919 was 1,042,143.

The amount of butter exported prior to the European war exceeded 200,000,000 pounds a year, the principal market being England. During the war the lack of feed caused the production of milk to decrease until the yield per cow was scarcely one-half that of the prewar period. The production of butter in 1914 was about 254,000,000 pounds, but that for the year 1919 was only 152,000,000 pounds.

Perhaps the most prominent feature of Danish dairying is the cooperative associations, which operate most of the factories and distribute or export the products. All butter exported from Denmark must bear the "Lurmarke," and also must pass a rigid inspection as to quality. Poor butter or imitation butter is not permitted to be exported from the country.

The great butter trade of Denmark has been developed within the last 25 years. Important aids to the development of dairying in that country have been the invention of the cream separator, in 1879; cooperative dairying, beginning in 1882; cooperative factory management, in 1887; the use of milk records, about 1895; and the "Lurmarke," or national trade-mark, established by law in 1906. The first four factors likewise have been prominent in the dairy development of other countries.

France.—The dairy industry in France has been in existence for many years. During this time a number of breeds of cows have been developed. The milk of sheep and goats is used also in the industry. France has two very noted cheeses, Roquefort and Camembert, the former being made of sheep's milk. These varieties are the principal export cheese from that country, and in practically all countries where cheese is made imitations of these two kinds are also made. French butter has been in international trade for more than 50 years; however, both cheese and butter have practically disappeared from the export trade since the war began.

France had 7,794,270 cows in 1913, and the total of cattle was a little more than 14,500,000 head. At the close of the war the number of cows was reduced to about 6,250,000 and the total of cattle to about 12,500,000 head. The number of sheep before the war was about 12,500,000 and after the war it was about 10,500,000 head. The number of goats is given for the year 1915 as 469,487 head. The number of factories of milk products in 1913 is given as 5,621, with a majority of these individually owned. All parts of France have received considerable development in dairying, but the greater number of factories are located along the eastern border and in the southern part of the country.

Italy.—In Italy the industry is supplied with milk from cows, sheep, goats, and water buffaloes. The milk of goats is generally used for consumption as milk; the milk of buffaloes, being rich in fat, is used for the manufacture of butter; and the milk of the cows and sheep is used for cheese making.

For many years Italy consumed more cheese than she produced, but from 1895 to the war period the production increased very rapidly and the exportations had reached more than 60,000,000 pounds annually. Prior to the Great War, Italy produced more cheese than any other country in the world, and the cheese made is

of more than 30 different kinds. During the war the exports of cheese practically ceased and the imports became very low, but since the armistice there has been considerable recovery and the exports of cheese are again increasing.

The industry has received considerable Government assistance in late years and has made much progress, especially in the manufacture of cheese. Cooperative societies existed in northern Italy in the fourteenth and fifteenth centuries.

The cattle in Italy in 1918 were practically 6,000,000 head; the number of buffaloes was about 20,000; sheep, 10,000,000; and goats, 3,000,000.

Germany.—The number of cows in Germany in 1913 was 11,320,460. The number in 1919 is given as 7,682,785. In addition there were 3,500,000 goats in 1913. Although the number of cattle and cows was reduced during the war, the number of goats increased about 100,000 head. It may be stated that the reason possibly lay in the fact that there was no control over goat milk during the war. The total milk production is estimated by Starling for 1913 as 6,174,025,000 gallons, the butter production as 881,840,000 pounds, and the cheese production as 590,832,000 pounds. The milk production, he also reports, was reduced about one-half during the war. In Germany there has always been a shortage of whole milk, and the net imports prior to the war were about 120,000,000 pounds.

There are several breeds of cattle in Germany, but they are practically all the development of native stock. While cows have been reared and milked in Germany for many hundred years, perhaps the greatest development is shown between the years 1892 and 1910. During that period were introduced milk-record societies (1897) and cow-testing associations (1906). The number of cooperative societies increased during the period until societies were formed in all parts of the country, but the greater number were in Prussia.

Russia.—Siberia is one of the latest fields in which dairying has been developed in a large way. About the year 1894 the Danes entered Siberia and encouraged cooperative dairying for the purpose of securing the supply of butter manufactured. Ten years later that section was exporting more than 60,000,000 pounds annually; many creameries had been established; and the Russian Government began to offer assistance. By the year 1909 there were in the district of Tomsk, the principal butter-making region, 2,061 creameries with 2,020 branches; and in 1912 the number had increased to 2,294 creameries and 1,950 branches. In 1913 the quantity of butter exported from Russia was more than 170,000,000 pounds. This progress in dairying continued up to the European war. During the war, however, according to the Russian chamber of commerce in Paris, production fell rapidly and in 1917 was only 162,000,000

pounds, of which 126,000,000 pounds were from Siberia and 36,000,000 pounds from European Russia, the export being practically nothing.

While Russia has many advantages which favor the development of dairying, there are also disadvantages, especially with respect to quality of cattle and transportation facilities. The Siberian cow gives only 160 to 200 gallons of milk a year.

The cooperative systems of dairying, marketing butter, and buying supplies, as established in Russia prior to the war, possibly were the most extensive in the world at that time. Since the war but little information has been received relative to the loss of cattle or the effect of war on the dairy industry and the cooperative societies.

Switzerland.—Switzerland was one of the first countries to take up dairying. The two breeds of cows developed by that country are Simmenthal and Brown Swiss. Besides the cows there are a very large number of goats which furnish milk. The principal branch of the industry is cheese making, although the quantity of milk condensed is also very large. In 1913 the total milk produced by cows was 5,798,098,000 pounds and that produced by goats was 209,437,000 pounds, making a total of 6,018,558,000 pounds. About 2,300,000,000 pounds of that milk was used in the manufacture of dairy products, as follows: Cheese made, 180,556,740 pounds; butter made, 37,257,740 pounds; milk condensed, 88,144,000 pounds.

The number of cows in Switzerland in 1919 was 738,896 and of goats 349,794. The country is noted for its very large cheese consumption, which in 1914 was 26.4 pounds per person.

Other countries.—Norway has about 1,000,000 cattle, including nearly 800,000 cows. Reindeer also are milked in that country, of which there were 142,623 in 1907. It is claimed that the greatest handicap to dairying in Norway is the scattered towns and the lack of transportation facilities. There are more than a million sheep in Norway, and the ewes furnish milk at the rate of about 88 pounds a year.

Sweden and Finland have developed the dairy industry in a similar fashion. The cows in Sweden now number nearly 1,500,000 head. In 1917 there were 1,745 dairies receiving more than 2,000,000,000 pounds of milk for manufacture. The total production of milk is estimated at 6,600,000,000 pounds, one-half being consumed as milk or used for household purposes.

Finland has 1,000,000 cows and 125,675 reindeer. The butter factories made about 30,000,000 pounds of butter in 1913. The production of cheese for the same year was 5,300,000 pounds. In normal times the export of butter amounts to about 25,000,000 pounds.

Austria-Hungary and the Balkans have always had large numbers of cattle, sheep, and goats, and in Austria-Hungary, Roumania, Bulgaria, and Serbia, the water buffalo also is used for milk. These countries have never produced enough of dairy products to supply

themselves properly, hence the imports and exports were more in the nature of an exchange.

Greece, Turkey, Asia Minor, and parts of Egypt have similar dairy conditions, and sheep and goats play a large part in the production of the milk used for all purposes. In Egypt, however, there are more than 500,000 cows and about the same number of buffaloes.

British South Africa has developed very rapidly in dairying within the last decade, and in 1918 made more than 21,900,000 pounds of butter and 8,500,000 pounds of cheese. The conditions appear to be very favorable for the development of dairying. In that country Holsteins and English types of cattle predominate.

The dairy industry in China and Japan had not received much attention until within recent years, but there are now a number of factories in Japan making butter, cheese, and condensed milk. The cows, which have been largely imported, are pure-bred and grade Jerseys and Guernseys. The native cows of Japan are not profitable producers of milk.

Although there are millions of cows spread over China they are not generally used for the production of market milk, except in connection with hospitals, missions, etc. The religion of a part of the people of China forbids the use of milk or meat of animals, hence they do not take readily to dairying. In some sections of China the milk of camels and yaks is used, and in Tibet much butter is made from yak's milk. The Mongolians have always used milk. During recent years the use of condensed milk has become more general in China and the amount imported has increased rapidly.

THE LATIN AMERICAN COUNTRIES.

Argentina.—The greatest development in dairying in South America has been reached in Argentina. That country possesses a large number of suitable cattle, a good climate, rich natural pastures, numerous artificial pastures, and excellent communications for transportation of feeds and products.

Cattle were introduced into Argentina in the sixteenth century and many herds were permitted to roam the rich pasture lands until they became wild. Later these wild cattle were graded up by the importation of bulls of the better breeds, such as the Hereford, Shorthorn, Angus, Jersey, Swiss, and Holstein. The cows are always on pasture and do not receive concentrated food, hence the yield of butter can not be high. The quality of butter fat varies with the season. During the year there are periods of abundant and of scanty pasture, which makes it very hard to determine the average yield of milk per cow. It is not uncommon, however, for cows to give from 5 to 7 gallons a day.

There has been an increase in the number of factories from 324 in 1903 to more than 3,000 in 1918. These include dairies, and butter,

cheese, and mixed factories. The largest butter factory in Argentina is reported to have a capacity of more than 5 tons of butter daily.

Exportation of dairy products began in 1894, when a small shipment was made to England and France. During the European war the production and exportation of butter and cheese increased very materially. In 1903 the production of butter was 19,000,000 pounds, and in 1918 the amount is reported, semiofficially, as 53,900,000 pounds, with an export of 41,000,000 pounds for the same year. The cheese production in 1903 was 2,600,000 pounds, and in 1918 it was 45,000,000 pounds, and the export increased from 8,500 pounds to 14,000,000 pounds.

Herd records have been established for the principal breeds of cattle. Sanitary measures have been formulated and regular inspections maintained. Much work has been done to eradicate animal diseases and prevent the spread of tuberculosis. Pasteurization of milk has been introduced and is generally practiced in all modern butter factories and milk plants. A large quantity of butter and cheese is made in the rural sections, where it is mostly consumed, a small percentage of it reaching the markets.

Chile.—Chile has a valuable dairy industry. That country has practically 2,000,000 cattle, including 165,000 dairy cows. These cows produce about 37,000,000 gallons of milk. The butter production is between 2,000,000, and 3,000,000 pounds and the cheese production is between 5,000,000 and 6,000,000 pounds. The dairy cattle have been graded up for years, and many pure-bred herds of the Jersey and Holstein breeds are now to be seen.

Uruguay.—Domestic cattle were first introduced into Uruguay in 1603, when 100 head were brought from Argentina and turned on the best pastures and given full freedom. They multiplied and became wild. In adapting themselves to their new life and environment they modified the characters of the original Spanish cattle, and thus formed the local or "Criolla" breed. The improvement of the Criolla cattle began in 1860 with the importation of Durham (Short-horn) bulls. Herefords were introduced in 1864, the Devon breed in 1874, Ayrshire, Simmenthal, and Jersey in 1887; Dutch and Red Flemish in 1910; Black Spotted Flemish in 1912. Alvarez states:

Of all the milk breeds, the most widely spread is the Criolla, which is common in the whole of Uruguay. It has a lactation period of five or six months and yields about 1.32 gallons of milk per day.

A herd book was founded in 1913 for all the principal breeds in Uruguay.

Dr. Arturo Abella, of the Department of Agricultural Information, Montevideo, gives the following description of dairying in Uruguay:

In Uruguay, milk is produced on farms of varying area, either as a part of the ordinary farm routine with dairy cattle, or by more specialized methods, the practice of which

is confined to certain regions, particularly those near markets. Owing to the local methods of production employed it is difficult to determine the milk yield in Uruguay. It might, however, be ascertained approximately from the number of dairy cattle existing in the country.

The consumption of milk per person in the departments was from 0.2 or 0.4 of a pint a day, while the highest was 1.18 pints, as against 0.1 of a pint for the lowest consumption in any locality.

The butter and cheese branch is limited to the native demand. Besides the establishments which specialize in this industry, it is also carried on in a great number of mixed farms where milk cows are kept. These "estancias" make a certain quantity of butter and cheese, partly for home use, and partly for selling at wholesale prices to the retailers. In these farms, breeding is carried on as well as dairying. Some farms have specialized in the breeding and improvement of dairy cattle, their chief business being milk production.

In the Department of Colonia the milk industry is more extensively developed, there being many places with foreign settlers (e. g., Swiss), where flourishing dairy farms have been established, amongst which are some imported "lecherias" and "creameries."

The most important places for cheese making are the Departments of Maldonado, Colonia, Tacuarembó, and Rocha. The establishments whose chief enterprise is the sale of milk, and which make only small amounts of butter, are mostly in the districts round about Montevideo.

Brazil.—Dairying in Brazil has not received much attention within recent years, but the progress has been very encouraging since the late development began. The following description of dairying in Brazil is taken from an article by Mr. L. Marchant, Pan American Union, Washington, D. C.:

The production of milk and its derivatives is carried on almost everywhere in Brazil. There is hardly a farmer, however modest his pretensions, who can not boast of at least a cow or two, and there are many who own enough to supply all the milk, butter, and cheese required for home use; while in the neighborhood of towns and cities there is always a more or less abundant supply of these commodities from the surrounding farms.

In some parts of the country where cattle are raised in considerable numbers, but which do not possess facilities for the marketing of milk and butter, the milk is utilized to make a peculiar type of cheese. This cheese, which is usually made into the shape of a gourd or cushaw, has a particularly thick and hard rind and is calculated to keep for a considerable length of time.

These people (near Rio de Janeiro) make a considerable quantity of butter, which is consumed principally in Rio de Janeiro.

Dairy work has been organized on broad industrial lines in the States of Sao Paulo, Rio de Janeiro, and Minas Geraes. The last-mentioned State is famous for a particular type of salt cheese, which is consumed almost everywhere in Brazil.

A number of factories have been established for the production of what is known as English Dutch cheese or Rhine cheese.

Butter is manufactured in Minas Geraes in large quantities. It is of excellent quality and is shipped both in tins and in kegs. An important feature of the Minas dairy activities is the shipping of milk to Rio de Janeiro and other large cities.

The State of Minas is considered the most important dairy State, as a whole, but the States of Rio de Janeiro and São Paulo are now producing large quantities of dairy products. The State of Rio de Janeiro furnished a very large part of the milk supplied to the cities of Rio de Janeiro and São Paulo. The following were the exports from

Minas Geraes in 1911: Milk, 26,088,101 pounds; butter, 6,745,384 pounds; cheese, 13,402,899 pounds.

Other American countries.—In Mexico the cattle are the result of crosses between the Spanish bull-fighting breed and the Brown Swiss. This mixture resulted in a small type, which has adapted itself to the climate of Mexico.

Venezuela has a great many milk goats and perhaps more cows than people in the country, yet dairying is in a very primitive state.

The dairy business in Paraguay, with the exception of Asuncion, is yet very primitive, the customers in many villages being supplied direct from the cows, or from jars carried on donkeys or on the heads of the women. The milk comes from native cows, which give about 3 liters per day. The native cattle have been crossed with the Zebu and Hereford breeds.

“Milk, butter, and cheese are found in almost every household in the Republic of Guatemala,” says Mr. Sam. H. Ray, of the Animal Husbandry Division, United States Department of Agriculture. “Most of the dairies which we found in the Republic were rather small, but in the city of Guatemala and in one or two of the other larger cities very good dairy establishments were found. Most of the dairymen have Holstein cattle, and some very good individuals were seen. Several years ago a large shipment of this dairy breed was imported from the United States and Holland.”

The production of butter and cheese in Nicaragua is sufficient for the local demand, and cheese is exported to neighboring countries in small quantities. Cheese is an important article of food for the laboring class.

While Cuba has in the neighborhood of 1,000,000 cows, the dairy industry has not been developed to any great extent. Whole milk is sold all over the island, but condensed milk is in very general use and is consumed in relatively large quantities. During the year 1917 the amounts of dairy products imported were as follows: Butter, 1,301,254 pounds; cheese, 3,272,488 pounds; condensed milk, 36,497,528 pounds. The only export was cheese, of which 8,135 pounds was exported. Most of the condensed milk is imported from the United States.

In general, the beef industry has greatly overshadowed the dairy industry in most American countries. Especially is this true in sections where there are wide ranges and abundant pasturage, as in Argentina, Uruguay, Brazil, Venezuela, Colombia, Mexico, and Paraguay.

Strictly speaking, there is little or no dairying in a large part of Central America, South America, and Mexico. However, throughout the whole of Latin America the family cow is in evidence, and dairy products are supplied for the family wherever the people are

sufficiently prosperous to afford to own cows or goats. This does not constitute dairying as an industry, but in time leads to the production of dairy products for a profit, which is really the beginning of dairying. There is not much demand for the higher grades of dairy products except in the cities, where there is a foreign population, or in a foreign settlement. The use of dairy products, however, has been and is still growing in all parts of Latin America.

In most of the countries all of the different methods of delivering market milk are still in use, such as driving the cow from door to door, the delivering from cans on donkeys, and delivering from carts or from modern milk wagons.

On the large haciendas and near the larger cities it is possible to find modern barns and cows handled and milked under very favorable sanitary conditions.

The price of milk products during the European War has been a great stimulus to the dairy industry of South America, and a number of the countries have not been slow to take advantage of the opportunity. One country, at least, has been supplying dairy products to countries that have been in the dairy business for hundreds of years.

AVIATION DEVELOPMENT IN ECUADOR . .

AERIAL achievement has thrilled various parts of Latin America, and there have been not a few daring exploits and regrettable tragedies. Ecuador, however, has not shown any very active interest since the unsuccessful experiences of 1911-12 until, in the fall of 1920, Lieut. Elia Liut and Signor Ferruccio Guiceairdi, two Italian aviators, succeeded in making flights covering distances of over 400 miles at heights approximating 19,000 feet. To one familiar with the geographical characteristics of the country traversed, the accomplishment appears the more remarkable. Ecuador is divided into three distinct regions from west to east, clearly defined by the great Cordilleras of the Andes. The Pacific slope, stretching upward to the western range, is from 60 to 80 miles in width. The inter-Andine plateau between the eastern and western ranges reaches an altitude of from 7,250 to 9,200 feet, while the hinterland, known as the Oriente, which stretches from the eastern Cordillera to the Brazilian border, is almost entirely tropical

jungle, much of it unexplored, known only to natives, a few travelers, the Government post officials, and the caucheros, or rubber gatherers.

Guayaquil, 2° below the Equator, is situated on the Guayas River, about 60 miles from the Gulf of Guayaquil, 14 feet above sea level. It seems to nestle at the very base of the huge mountain bulwark which towers so abruptly above it for thousands of feet. Quito, the present capital of the Republic, and the oldest of all of the capitals of South America, lies 16 miles below the Equator and has an elevation of 9,537 feet above sea level. In the time of the Incas, Quito was connected with the rest of the Empire by excellent roads; but the white man's way was by the sea, and the mountain roads fell into decay. Although Guayaquil became the port of Quito soon after the conquest by the Spaniards, until 1880, it took from 6 to 16 days to travel from Guayaquil to Quito by the road which for 400 years was the principal trade route of Ecuador. For 60 miles a steamboat plied up the Guayas River; from there the way led for 250 miles through a tropical forest, deep jungles, steep ascents and descents and almost impassable quagmires. On June 25, 1908, the first train from Guayaquil entered Quito, bringing to fruition a dream of 50 years, after slow and difficult work, extending over more than 30 years filled with engineering, labor, and financial problems.

With the completion of the railroad it was possible to reach Quito in two days. On the first day the traveler leaves the tropical climate of the gulf city to reach Riobamba and the region of perpetual snow the same evening. The trains do not run at night, for this section of the world is still in the process of formation and landslides are frequent and unexpected. From Riobamba, along the inter-Andine plateau, Quito is reached after little over half a day's journey.

A flight from Guayaquil to Quito by airplane presented hazards requiring not only great courage but unusual skill and intelligence. In June, 1920, the owners of the oldest daily newspaper in Ecuador, *El Telegrafo*, purchased a biplane in Italy of the Newport model, fitted with a rotary 130-horsepower, 7-cylinder motor. It secured at the same time the services of Lieut. Elia Liut, the aviator pilot of the Italian Army, who held the world speed record from 1916 to 1920, and the expert mechanic Giovanni Fedelio. The outfit arrived in Ecuador early in August; trial flights were made which proved successful, and arrangements for the real trip begun. This included arranging for landing stations in each of the cities where the machines would stop, the construction of shelters, and the establishment of signal points and meteorological stations where the prevailing air currents could be studied.

These arrangements delayed the start until November 2, 1920. On that date the aviator made his first attempt to start on the first lap of the flight which was to take him from Guayaquil to the city of



MOUNT CHIMBORAZO, ECUADOR.

Lieut. Lint flew without mishap from Cuenca to the inter-Andean city of Riobamba in his recent trip, almost brushing on the way the perpetual snows of Chimborazo. This, the fourth highest mountain in the world, with an altitude estimated at 20,608 feet, was first climbed by man in 1880.

Cuenca; but, in spite of all weather prognostications, a dense fog covered the solid mass of the Cordillera, and Lieut. Liut was compelled to return to his starting point. Two days later (Nov. 4) he again attempted the ascent, and this time Lieut. Liut and his biplane, Telegrafo I, passed successfully over the Azuat Pass in the western range of the Ecuadorean Andes, at a height of about 19,000 feet, landing in Cuenca after a flight lasting 1 hour and 55 minutes.

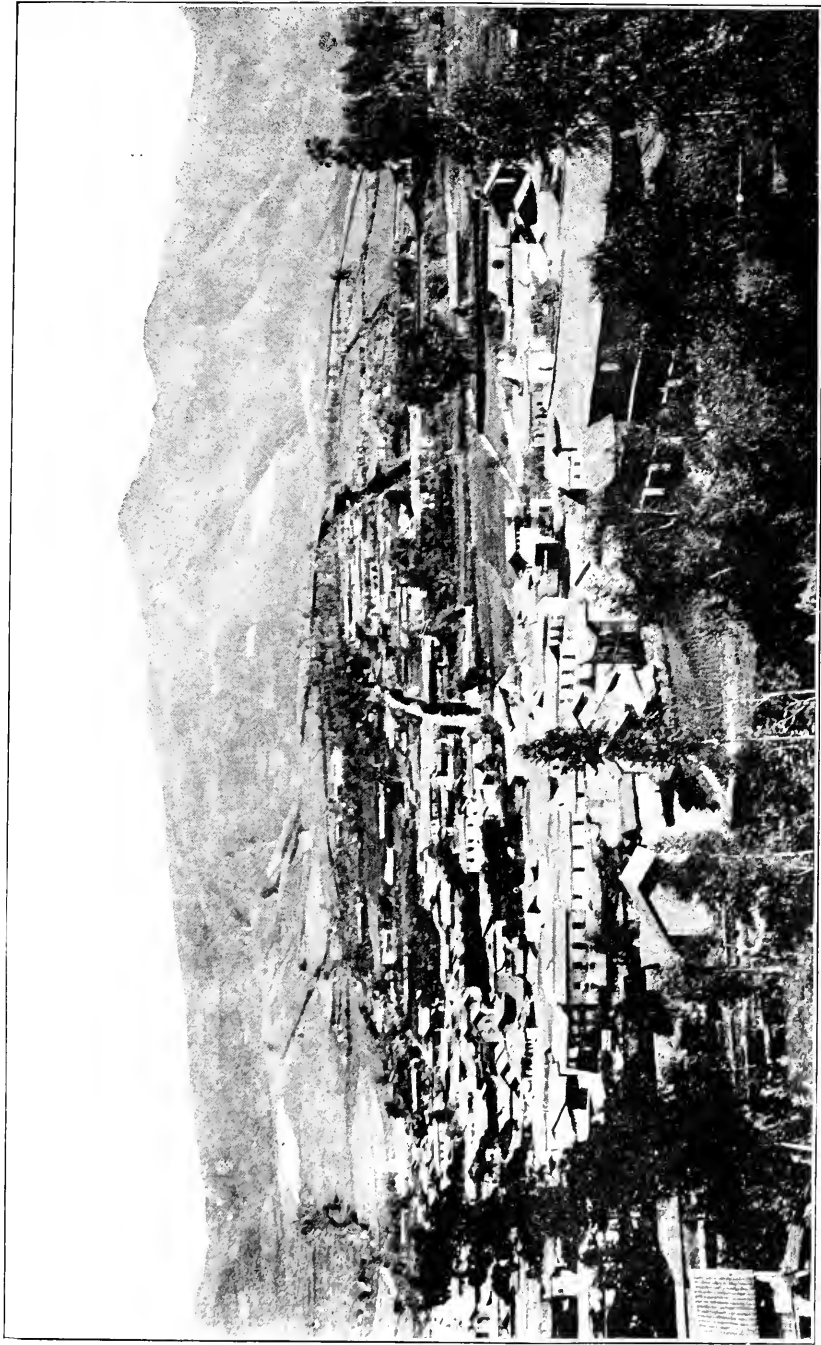
Two weeks later, on the 19th of November, after one attempt had been frustrated by the strong winds and conflicting air currents, the second stage of this remarkable flight was achieved. Lieut. Liut flew without mishap from Cuenca to the inter-Andean city of Riobamba, almost brushing on the way the perpetual snows of Chimborazo, the fourth highest mountain in the world, and reaching his landing place, nearly frozen, with his barometer registering 19° below zero.

In each of the cities where the Italian aviator landed the festivities celebrating the event lasted about 10 days, so that it was not until November 29 that the last lap of the aerial journey was attempted, Liut landing safely in Quito in spite of strong adverse wind currents.

In the meantime, about the middle of November, Ferruccio Guicciardi, a countryman of Lieut. Liut, arrived in Ecuador to continue the flight over the northern ranges, making the trip in two stages from Quito to Ibarra on the 9th of February, 1921, and from Ibarra to the frontier city of Tulcan.

Upon the successful completion of these flights the Government of Ecuador, realizing the importance of aviation service in the future of the country, decided to establish aviation schools. Without delay the services of the aviators, who had been brought to Ecuador through the public spirit and initiative of El Telegrafo, were secured and large sums of money were voted by congress for the purchase of machines and other necessary equipment and expense. In March two additional airplanes arrived from Italy, both of the S. V. A. model, each of 130 horsepower, with a speed of 140 kilometers per hour. These were presented to the Ecuadorean Government by the University Patriotic Club and the Syrian colony of Ecuador, respectively. This makes seven planes already in the service, and another is promised by the Chinese colony. The Government itself has contracted with an Italian manufacturer to furnish 12 additional planes, with machinery and tools for equipping an up-to-date repair shop. The Government aviation field occupies the east bank of the Guayas River, opposite Guayaquil.

On the first flight of Telegrafo I, the aviator carried 512 postal cards, thereby inaugurating the Ecuadorean aerial mail service, which is to be extended greatly in the near future.



A VIEW OF QUITO, ECUADOR.

This ancient city of kings, the destination of Lieut. Elia Lind's aerial flight from Guayaquil, is situated in the inter-Andine plateau, 16° below the Ecuador and 9,537 feet above sea level.

The success of the Guayaquil-Tulcan flights, which covered the cities of Cuenca, Canar, Riobamba, Quito, and Ibarra, soaring above the Andean range twice, is unquestionably one of the most sensational triumphs of aviation in South America. The heights and distances covered are as follows:

<i>Height above sea level.</i>	<i>Fct.</i>	<i>Distance covered in each flight.</i>	<i>Miles.</i>
Guayaquil.....	14	Guayaquil to Cuenca.....	91.34
Cuenca.....	8,386	Cuenca to Riobamba.....	107.49
Riobamba.....	9,178	Riobamba to Quito.....	98.79
Quito.....	9,537	Quito to Ibarra.....	51.57
Ibarra.....	7,308	Ibarra to Tulcan.....	44.11
Tulcan.....	9,775		

MEMORIAL BUST OF GENERAL GORGAS FOR PANAMA ∴ ∴ ∴ ∴

A BUST in bronze of the late Maj. Gen. William C. Gorgas, formerly Surgeon General of the United States, has been purchased by the Government of Panama and will be installed in front of the main entrance to the new hospital— itself a memorial—now nearing completion in the city of Panama.

This bust is the work of Mr. P. Bryant Baker, a young English sculptor, examples of whose work are well and favorably known not only in England but in the United States, and its acquisition and installation by the Panama Government is but another expression of gratitude for the great work done by Gen. Gorgas in the sanitation of the Isthmian Republic. To quote from a letter of President Porras to the sculptor, with reference to the bust:

We deeply appreciate the sanitation work done by Dr. Gorgas in Panama and are convinced that in no better way can we demonstrate our gratitude.





Courtesy of the sculptor, P. Bryant Baker.

COMMEMORATIVE BUST IN BRONZE OF THE LATE SURG. GEN. GORGAS.

This work was recently purchased by the Government of Panama and is to be installed in front of the main entrance of the new general hospital, now nearing completion, in the city of Panama.

DEATH OF GENERAL RAFAEL REYES ∴ ∴

THE death of former President Rafael Reyes at Bogota, on February 19, 1921, removes one of the most prominent international figures of Colombia. As an explorer, a diplomat, a soldier, an executive, and a man of letters, Gen. Reyes distinguished himself in many fields.

Together with his brother Nestor he explored that immense tract of territory lying between the headwaters of the Amazon and Paraná Rivers and their affluents, which forms the border lands of Brazil, Colombia, and Venezuela. His book giving the results of his explorations in this region is considered one of the most complete and authoritative yet published.

Gen. Reyes represented his country in a diplomatic capacity at several European capitals. As a delegate and special envoy he attended several international conferences and congresses, and in all of these he showed himself a brilliant, well-informed, forceful speaker and advocate.

He was elected President of Colombia on July 4, 1904, being inaugurated August 7 of the same year, and remaining in office until 1909.

His pleasing personality, his intellectual charm, and his amiable and genial character won him friends everywhere. The notice of his death will cause regret to innumerable friends and acquaintances both in Colombia and elsewhere. At the time of his death he was honorary president of the Casa America of Barcelona; honorary president of the Congress of Political Science of Chile; member of the geographic societies of London, Paris, Madrid, and Mexico; and of many other learned societies.





THE LATE GEN. RAFAEL REYES, DISTINGUISHED STATESMAN AND EXPLORER,
FORMERLY PRESIDENT OF COLOMBIA.

FUTURE DEVELOPMENT OF THE SOUTH AMERICAN OIL INDUSTRY .:

AT the annual meeting of the American Petroleum Institute held in Washington, D. C., November 17, 18, and 19, 1920, Dr. Tomás A. Le Breton, ambassador to the United States from Argentina, delivered an address entitled "The Future Development of the South American Oil Industry" of particular interest and pertinency at the present time. His address, practically complete, is as follows:

Compared with the figures of oil production on a large scale, with which you are acquainted, the oil industry in South America in its present stage of development is of small importance. With the exception of some undertakings started long ago, we may say that we are still in the exploration period. It is well to remember, however, that some of the most prominent geologists assert that there are great oil deposits in South America, and that this area will be the greatest oil-producing region in the world in a not far distant future.

The first deposits were discovered in Peru by Father Acosta about the middle of the seventeenth century, and as far back as 1692 the Spanish Government granted the first concessions. Outside of Peru, where there are important deposits, oil has also been located and obtained in Venezuela, Colombia, Bolivia, and the Argentine Republic.

It is not my desire to dwell extensively on this point, not only because I lack the necessary technical knowledge that would be required for this purpose, but also because it is not possible to consider as a whole, for the mere purpose of facility of expression, heterogeneous units whose individual importance varies with the nature of the line of activity or the particular problem under consideration. The countries of South America, notwithstanding their common colonial origin, their similar democratic aspirations, and the intense spirit of human solidarity that animates and binds them together, have had their respective economic development carried along different lines by reason of the enormous area of the continent and the great diversity in its geographic and natural conditions. It becomes impossible to consider them together as a harmonious and homogeneous unit when we desire to study any one particular question or economic problem.

This digression will justify my touching only such points as have reference to the Argentine Republic. I will refrain from undertaking a more general analysis, which could not be done without overstepping the limits of my province.

ARGENTINA LIBERAL TO FOREIGN NATIONALS.

Few countries in the world are as liberal as the Argentine Republic in granting rights to foreign nationals in the exploitation of their natural resources, and in engaging in any other line of activity within their borders. In Argentina foreign citizens and corporations may work on the same footing as our nationals, and enjoy the same

rights and privileges. None of our laws, from the constitution itself to the mining code, discriminates in any way against foreigners; and these laws have the further advantage of being uniform, as they are enacted by the National Government, and are effective throughout the entire territory of the Republic.

We have never entertained ideas of monopoly or of the exclusion of private enterprise, and our relations toward foreign capital invested in the exploitation of our natural resources has always been most broad and liberal. Yet there is an aspect in the situation of our oil supply that may be misunderstood by some, and which requires, therefore, a brief explanation. I refer to the Government's reservation of some oil lands for the purposes of governmental exploitation.

My country has an area of 1,153,119 square miles, out of which the Government has reserved, up to this time, only 19 square miles in the district of Comodoro Rivadavia, and Congress has just been requested to reserve 30 square miles more in Neuquen to be developed by the department of commerce. When it is considered that the oil-producing zone in the United States, according to data published by the Geological Survey, comprises 9,000 square miles, it will be seen how insignificant is the area reserved by the Government of Argentina, and how little it lessens the field open to private enterprise.

FUEL SITUATION PECULIAR.

The necessity for governmental action in this direction can easily be appreciated from the following facts: In 1912, when the Comodoro Rivadavia oil deposits, discovered by Government experts while exploring for water, began to be worked, the discovery was received with complete indifference by the general public and the world at large, and private initiative would not have undertaken the venture of drilling for oil in that distant region. On the other hand, our fuel situation is peculiar, as up to this time we lack good coal mines in operation, and are compelled to import this fuel, sometimes from England and sometimes from this country, always paying high freight rates and taking the risk of not being able to secure it at the time and in the amount required. It was therefore quite natural that the Government should interest itself in the development of the oil fields, even under conditions that did not seem sufficiently attractive to private enterprises. Furthermore, we are very much in need of large amounts of fuel for our warships, Government railroads, and other public utilities such as sanitary works, that in Argentina are under State control. For the Government to endeavor to assure a supply of oil for these purposes was therefore a wise administrative policy, as our public works and service required this to stimulate industrial development.

That this action will not interfere with private enterprise is further shown by the Argentine President's message of September 25, 1919, which contains, with regard to the subject of oil development, the following statement:

There will always remain a vast and profitable field of activity for private enterprise, as shown by the existence and success of companies working outside the limits of the national reserve.

FOREIGNERS MUST OBEY LAWS.

As I have said before, Argentina grants to foreigners the same rights that are enjoyed by our nationals. We can not, nor should we be expected to grant them greater or more extensive rights. If, therefore, at any time we deem it necessary, proper, and expedient to promulgate laws of general application, even if such laws impose some necessary burdens or prescribe requirements intended to subserve the general welfare, we have no doubt that those who have invested their capital and activity in our territory will admit, as they do in their own country, that our criterion is sovereign, and that our Government, in the exercise of its supreme authority, has prescribed conditions of industrial exploitation dictated by a high sense of justice and the requirements of national welfare.

I entertain the conviction that, happily for us, all of you these present concur in these ideas, judging by the sentiment expressed by our distinguished chairman, Mr. Thomas A. O'Donnell, president of the American Petroleum Institute, when he said that—

The American oil industry * * * asks only * * * an equal status, putting it upon an equal footing with the nationals of other countries in the development of the world petroleum resources. * * *

Frank, true, and friendly cooperation of this kind is what we desire, and we believe that we have all reached such a degree of moral and political culture as will insure our being able to understand each other upon this basis; and that the strong economic condition of which we are justly proud, as well as the advanced democratic form of our institutions, will assure the stability and steady progress of our industrial development.

ACCOMPLISHMENT THROUGH COOPERATION.

As an instance of what this kind of cooperation can accomplish I have in mind the economic situation of the Argentine railroads in recent years. The majority of these lines have been built and operated by foreign enterprise. According to an agreement entered into with the Government, these companies may raise their rates to a point that will assure a return of 6.8 per cent on the capital invested. During the years 1908-1917 the profits declined from 4.71 to 2.8 per cent—the latter during the most difficult period of the European war—this decline being due to the high price of coal and scarcity of freight. The companies requested the Government to be permitted to raise their rates. Some increases were allowed but, subsequently, the Government refused to grant further increases on the ground that they would be ruinous to agriculture and would destroy the principal source of revenue to the railroads themselves by imposing rates that would be detrimental to production.

The railroads might perhaps have found arguments, based upon their agreements, to insist on their demands, but they decided instead to abide by the Government's decision and endeavor to find a remedy for the decreased revenue in the promotion and encouragement of increased production. Since that time the economic situation of the country has improved, and the railroads have been the first to feel the beneficial effects of the improvement brought about by the Government's sound policies.

It is in this spirit of fairness that we gladly accept the cooperation of foreign capital and industry; that is, that they profit by the advantages and opportunities of a rich country with liberal Government institutions, but, that at the same time, they identify themselves intimately with the country's economic life, taking the risk of its fluctuations, and the consequences of possible conflicting points of view, on the same footing with our nationals.

I am a sincere admirer of the American people, and it is that sentiment that brought me to this country. The better I know the United States and the more closely I become acquainted with its leading men, the more intense is the attraction and admiration that I feel for its great advancement and worthy attributes. It is for this very reason that I strongly desire that the cordial relations, never disturbed in the past, may continue to bring Argentina and the United States ever closer to each other; and to that end nothing can contribute more effectively than a plain and frank statement of our respective viewpoints.

Let me, in closing, express my most sincere hope that the predictions of the geologists will be fulfilled, and that we may see in my country the fullest development of its oil resources. I am certain that we are all agreed in entertaining the hope that this development will be on the basis of the most frank and full cooperation for the benefit of human progress and in the interests of the general welfare, thus making to our modern civilization that valuable contribution which is always incident to the proper exploitation of oil deposits.

AGRICULTURE, INDUSTRY AND COMMERCE

ARGENTINA.

PROPOSED INVESTMENT IN FIBER PLANT.—A fiber plant company of New York plans an investment of possibly \$5,000,000 in Argentina and Brazil for the development of native fibers.

TONNAGE ENTRIES.—British tonnage entries into Argentine ports during 1920 amounted to 3,180,000 tons, as compared with 1,200,000 tons American shipping and 546,000 tons French shipping.

PACKING HOUSES.—Argentina has recommended negotiations for holding in Buenos Aires or Montevideo a convention of delegates from Uruguay, Paraguay, Brazil, and Argentina in order to plan for domestic and foreign loans for the expropriation of packing houses. It is proposed that these loans be negotiated under the joint guaranties of the governments in question. The cattle committee of the Uruguayan House of Representatives favors expropriation, and suggests similar action by other countries. If such action takes place, it is planned that the packing houses should be managed by directors selected from among cattle men and government officials, under direct supervision by the respective governments.

CROP ESTIMATE FOR 1920-21.—The first estimate of the general directorate of rural economy and statistics of the crops of wheat, linseed, and oats in the Republic for 1920-21 gives 5,015,000 tons of wheat, 1,082,000 tons of linseed, and 864,000 tons of oats as the expected yield.

PETROLEUM PRODUCTION.—A memorandum from the administration of fiscal petroleum fields of Comodoro Rivadavia to the minister of agriculture shows that the total production of petroleum for 1920 was 226,545 cubic meters, or 38,393 cubic meters more than in 1918, and 28,972 cubic meters more than in 1919. More petroleum was produced in December than in any other month of the year, the yield being 25,017 cubic meters. If this rate of production continues, the yield for the present year will be greater than that of the past 12 months' period.

COOPERATIVE SOCIETY OF FODDER GROWERS.—The fodder growers of Candelaria, Misiones territory, have formed a cooperative society for the development of their industry. Each member of the society will contribute money in proportion to the number of hectares he cultivates.

ARGENTINE INDUSTRIES.—According to the national census there were 48,779 industrial establishments in Argentina with an aggregate capital of 1,787,662,295 pesos national currency, employing 410,201 workmen. Chief among these industries are: Food production, 18,983 establishments, with capital of 763,772,611 pesos; clothing and toilet articles, 100,178,372 establishments with a capital of 160,326,029 pesos; building companies, 8,582 establishments, with a capital of 216,182,262 pesos; furniture, wheels, etc., 4,441 establishments, with a capital of 62,638,495 pesos; and metallurgy and related industries, 3,275 establishments, with capital amounting to 107,620,033 pesos.

INCREASE OF NATIONAL EXPORTS.—From January 1, 1921, to March 4, 916,225 tons of wheat, linseed, oats, and corn were exported, as against 2,056,741 tons in the corresponding period of 1920, or an increase of 1,140,516 tons. Exportations of these same grains for the commercial week ending March 3 amounted to 149,025 tons, against 187,017 tons in the corresponding week of the previous year.

ZONE FREE OF CATTLE TICKS.—A resolution has been passed by the division of the nation's live-stock bureau incorporating the departments of Castellanos, Las Colonias, and the capital in the group of departments which form the tick-free zone.

EXPORT OF WINES FROM MENDOZA PROVINCE.—According to the figures furnished by the Ferrocarril al Pacifico during the first 15 days of February wine was shipped from the Province in the following amounts: 52,633 bottles, 3,628 casks, 769 cases, and 23 demijohns, or a total of 12,320,690 kilograms. During the same period the same railroad carried out of San Juan Province 13,370 bottles, 1,560 casks, and 1 case, making a total of 3,151,252 kilograms.

BOLIVIA.

COMMERCE.—According to figures prepared by the United States consul at La Paz the exports of Bolivia in 1920 were valued at \$19,285,583, as compared with \$5,191,085 in 1919. These exports consisted largely of tin and copper ore exported through the port of Arica. In 1920 the exports and imports of Bolivia through the port of Arica were valued at \$2,107,762 Chilean gold pesos (peso = about 36 cents), consisting of exports 29,940,861 pesos, and imports, 52,166,881 pesos. The principal countries from which imports were made, in the order of their importance, were Chile, the United States, Great Britain, Germany, and Peru.

INCREASED RAILWAY RATES.—The International Railway from Arica to La Paz increased the rates on the Chilean section of the line, effective from January 25, 1921, by 30 per cent.

RAILWAY CONSTRUCTION.—The Bolivian Government has contracted with the American International Corporation for the comple-

tion of the railway between La Quiaca on the frontier of the Argentine Republic, and Atocha, Bolivia. The consideration is reported to be the equivalent of \$8,500,000.

BRAZIL.

AGRICULTURAL CONGRESS.—An agricultural congress, under the auspices of the Marenhense Agricultural Society, was recently held in Sao Luiz de Maranhao.

REORGANIZATION OF THE LLOYD BRASILEIRO STEAMSHIP CO.—Steps have been taken to form a corporation with a capital of 30,000 contos, five-sixths of this amount to be subscribed by the Brazilian Government, for the purpose of reorganizing the Lloyd Brasileiro Steamship Co. The new corporation is to be administered exclusively by Brazilians. It is planned to issue debenture notes, bearing 4 per cent interest and redeemable in 29 years.

SUGAR.—In 1919 the State of Pernambuco, which is the greatest sugar-producing district of the Republic, had an output of 186,000 metric tons of sugar as compared with 170,000 metric tons in 1917-18. The estimated production for the grinding season of 1920-21 is 240,000 metric tons, or about 4,000,000 bags.

CACAO.—In the calendar year 1920 the shipments of cacao from Bahia totaled 844,949 bags of 132 pounds each, as compared with 822,529 bags in 1919. During the latter part of 1919 cacao was invoiced at 20 cents a pound, as compared with 7 cents a pound at the close of 1920.

TIMBER AND LUMBER.—From January to September, 1920, the exports of lumber from Brazil aggregated a value of 14,131,000 milreis. These exports, consisting of pine, cedar, and other building and cabinet woods, were shipped principally from the ports of Paranagua, Sao Francisco, Santa Anna do Livramento, Uruguayana, Para, Antonina, and Foz do Iguassu.

PORT WORKS.—A recent decree provides for the construction of port works at Fortaleza, State of Ceara. The estimated cost of the work is 12,893,565 milreis.

CONSTRUCTION IRON.—The Brazilian Electro Metallurgical Co., with a capital of 6,000 contos, will install two electric furnaces at Ribeirao Preto. These furnaces have a capacity for a daily output of 60 tons of structural iron.

PACKING HOUSES.—The State of Sao Paulo has the following packing plants: One at Barretos, operated by the Cold Storage & Pastoral Co. having a capital of 10,000 contos and employing 350 workmen; at Osaco, belonging to the Continental Products Co., with a capital of 10,000 contos and employing 700 workmen; at Santos, operated by the Santos Cold Storage Co., with a capital of 2,000 contos and employing 167 workmen; and near the city of Sao Paulo Armour &

Co. has invested 12,000 contos in a plant which employs 600 workmen and has a daily capacity for handling 2,000 beeves and 3,000 hogs.

MANUFACTURE OF RUBBER GOODS.—The factory established in Rio de Janeiro during the war for the manufacture of rubber goods, and which now employs about 200 workmen in making rubber heels, rubber soles, tubing, etc., has increased its capital to approximately 6,000 contos, and proposes within the next few months to engage in the manufacture of automobile tires. This branch of the factory is to have a capacity of 250 tires per day.

WHEAT.—The Brazilian wheat crop for 1920–21 is estimated at 120,000 tons. The area sown to wheat during the year referred to was, approximately, 100,000 hectares.

CHILE.

IMPORTS AND EXPORTS.—The principal imports to Chile during December, 1920, were: 1,621,420 kilos of sugar, worth 708,745 pesos gold; 4,188,073 kilos of Roman cement, worth 365,721 pesos; 23,072 tons of coal coke, worth 1,315,883 pesos; 42,012 tons of hard coal, worth 1,291,647 pesos; paper for printing, worth 1,812,117 pesos; petroleum, worth 1,452,492 pesos, and empty sacks, worth 7,082,557 pesos. The principal exports were: Nitrate, worth 65,925,-457 pesos gold; borate of lime, worth 3,567,638 pesos; copper bars, worth 1,785,626 pesos; silver bars, worth 529,500 pesos; wheat, worth 501,313 pesos; and iodine, worth 354,010 pesos.

CONCESSION TO THE CHILE EXPLORATION Co.—The Government has rented to the Chile Exploration Co. 38,450 square meters of ground to the north of the city of Antofagasta, where the company will install petroleum tanks, a pipe line feeding system, pumping stations, and other necessary works.

NITRATE INDUSTRY.—During February, 1921, the nitrate production was 3,286,601 quintals against 4,109,238 in the same month of the previous year. In the first two months of the present year, January and February, the production of nitrate was 7,507,869 quintals, or 625,571 quintals less than that of the corresponding period in 1920; and from July, 1920, to February, 1921, the production was 36,220,206 quintals, against 24,556,367 quintals in the same period of 1919–20. The nitrate exported in February amounted to 4,640,872 quintals, or 1,440,358 quintals less than in February, 1920.

DECREASE IN COST OF NITRATE MANUFACTURE.—The Government of Chile has received bids from an English company to install special machinery in the country, which will produce nitrate at a cost of 43 centavos less than that of the Haber system, the most economical at present in use. The company's terms are 20 centavos of the 43 centavos saved in the cost of manufacture.

CONCESSION TO THE KRUPP CO.—The Government of Chile has given the Krupp Co. a concession of 140,000 hectares of wooded land, lying between Lakes Llanquihue and Todos los Santos, for the erection of blast furnaces and foundries. All water rights are included. The ore to be used will be brought from Coquimbo Province, where the Krupp Co. already has mining concessions. The contract is for a period of 30 years, renewable for another 30 years if the industry operates satisfactorily in the opinion of the Government. The Krupp Co. obligates itself to fabricate all iron and steel products and all by-products of the industry which are needed in Chile. At the termination of the contract all improvements on the land, except the blast furnaces and machinery, must be turned over to the State.

COLOMBIA.

EXPORT OF CATTLE.—During 1920 12,254 beeves were exported from Valle, or 2,395 more than during the previous year.

RAILROAD IN CALI.—The railroad has been completed as far as San Francisco on the southern line passing Buenos Aires. An engineer is making the plans for the road to join that town with the railroad, thereby shortening the journey to Popayan four hours. The rails were laid as far as Canutico in the latter part of April. The rails on the northern line have been laid as far as Guacari.

CONTRACT SIGNED FOR THE PLANS OF THE CARARE RAILROAD.—The contract has been signed for the surveying and plans for the Carare Railroad in the department of Barranquilla.

CERAMIC FACTORY IN BARRANQUILLA.—A large ceramic factory, equipped with modern machinery, employing a large number of workmen and using native raw materials, has been established in Barranquilla.

OVERHEAD CABLE.—The section of public works of the Government of Cundinamarca has asked for bids from several foreign companies for the construction of an overhead cable between La Mesa and San Javier. This work was approved by the assembly last year and will be one of the most important of its kind in the country, as it will carry passengers as well as freight. The Government has asked for bids by cable, as the funds are on hand for immediate construction.

REDUCTION OF FREIGHT RATES IN RIVER TRAFFIC.—The Junta de Transportes has rendered a report to the minister of public works informing him that it has considered the question of freight rates in the Magdalena River traffic, and that it has come to the following conclusions: That there should be a decrease of 10 per cent on the downstream traffic rates on coffee, hides, skins, and other considerable

exports, not including foodstuffs, as the rate on foodstuffs has been already reduced 50 per cent in the present tariff. As a measure of equity and compensation to the shippers, an increase of 10 per cent on up-river traffic is advised, with the exception of sugar, wheat, rice, lard, fish, barley, etc., as well as seeds for cultivation, chemical and natural fertilizers, and, generally, on foodstuffs and national products. It is to be noted that the slight surcharge on foreign goods will be barely appreciable, as the foreign commerce is hardly 10 per cent of the river traffic. From May 1 the service of loading and unloading will be 1 peso per ton in the Upper Magdalena and 1.50 pesos in the Lower Magdalena for outward-bound traffic, or a decrease of 50 per cent on the budget presented for approval and on the present cost. The price for loading and unloading of live stock shall be 2 pesos per head instead of 3 pesos, as at present charged by the companies. The freight rates on the Upper Magdalena shall not be over 11 centavos per ton per kilometer carried, or 10 per cent increase over the previous rate, and the rate on downstream traffic is to be a 10 per cent decrease on the existing rate. The time during which these rates are to be effective is six months counting from March 1, with the possibility of an agreement between the Government and shippers to extend them further. The executive order making the foregoing rates effective was signed on March 1, 1921.

DEPOSITS OF FELDSPAR.—In the lands acquired by the Department of Antioquia in the district of Cocorna large deposits of feldspar have been found.

COSTA RICA.

GUANACASTE RAILWAY.—The house of deputies has approved the Guanacaste Railway concession providing for the construction of 174 kilometers of road from the present station of the Pacific Railway in Puntarenas, through the Province of Guanacaste, to Coco or Culebra Bay. A minimum of 25 kilometers must be built annually, and the construction of the entire line is to be completed within five years. The motive power will be produced from coal, oil, or waterfalls. Construction material, fuel, rolling stock, etc., will be admitted free of duty. The concessionaire is required to deposit \$50,000 as a guaranty for the faithful performance of the contract.

BUTTON FACTORY.—The department of fomento (promotion) has authorized H. J. Payne to establish a button factory at Puntarenas, using as raw material mother-of-pearl and vegetable ivory.

MATCH FACTORY.—The Government has granted permission to establish a match factory at Puntarenas.

ELECTRIC.—The Cartago Light & Power Co. has been authorized to increase its electric power to 67½ horsepower. The company agrees to pay to the Government 1 colon per horsepower yearly.

CUBA.

TELEPHONE SERVICE TO THE UNITED STATES.—On April 19 the telephone line between Cuba and the United States was put into operation.

PROROGATION OF DECREE PREVENTING IMPORTS OF RICE.—Inasmuch as there was a sufficient stock of rice in Cuba to supply the country for eight months, the decree preventing the importation of rice was prorogued. Persons having in their possession over 500 sacks of rice at the ports of entry of Cuba were called upon to furnish legalized inventories to the department of agriculture, commerce, and labor so that the amount might be reckoned, also records of the sales so as to guarantee the regularity of sale and distribution of the rice on hand.

THE CUBA CANE CO. REQUESTS CUSTOMS OFFICIALS.—The Cuba Cane Sugar Corporation has asked for a branch of the customs service to be extended to the subport of Palo Alto in the port district of Jucaro, pleading the necessity of such service to relieve the base harbor of unloading and loading vessels bound to and from foreign ports. In decree 166, February 5, an insertion states that inasmuch as the Cuba Cane Co. agrees to furnish a suitable place for the storage of merchandise subject to taxation, and inasmuch as the Cuba Cane Co. is willing to pay the salaries of the customs officials, the Government has agreed to equip the subport of Palo Alto for the entrance and clearance of national or foreign vessels, whether from overseas or the coastwise trade, and for the loading and unloading of general merchandise, either import or export. It also authorizes the administrator of customs of Jucaro to act as delegate administrator to handle all the documents necessary to the loading and unloading of shipping, and to handle all the customs collections for which this administrator is responsible.

SUGAR CROP, 1920-21.—Up to February 26, 1921, the statement of the sugar crop was as follows: Centrals grinding, 185: arrivals, 848,993 tons; exportation, 336,878; consumption, 18,192; stock on hand, 493,929 tons. The exportation at that time had been in the following proportions: Ports north of Hatteras, 263,406 tons; New Orleans, 23,511 tons; Galveston, 13,830 tons; Savannah, 1,522 tons; interior points of United States, 1,840 tons; Canada, 6,719 tons; France, 4,058 tons; Spain, 592 tons; China and Japan, 10,391 tons, and Australia, 11,009 tons. (The ton here used equals 2,240 pounds.)

SUGAR FINANCE COMMISSION.—By decree 155 the Sugar Finance Commission was formed. Six members of the commission are determined as follows: Two will represent the large sugar producers, and two, the bankers who lent financial aid in the production of the crop of 1920-21, and one member, the public interests in general, the last

named to be the secretary of agriculture, commerce, and labor. The commission is to have charge of all the operations connected with the sale and shipment of the sugar production from the crop of 1920-21, distributing the sales pro rata among holders of sugar, the price to be regulated according to the quality of sugar products sold. The commission will agree upon whatever measures are necessary for the carrying out of its functions, and to aid the producers when possible to obtain the necessary credit to harvest the crop. It is also one of the duties of the commission to sell the sugar at a natural price and not at an artificial one. The commission may name delegates in different shipping ports to see that vessels with sugar cargoes are not cleared unless they have the proper documents from the commission.

DOMINICAN REPUBLIC.

REDUCTION OF FREIGHT RATES FROM DOMINICAN REPUBLIC.—Steamship lines running from Dominican ports to New York have announced a reduction of 5 per cent in freight on shipments to that port. One company has announced a special rate on raw sugar of \$0.375 per 100 pounds, except in contracts already made.

IMPORTATION OF QUEEN BEES.—The secretary of agriculture and immigration has issued an order relative to the importation of queen bees.

RESOURCES OF DOMINICAN REPUBLIC.—Among the natural resources of the Dominican Republic are mines of gold, copper, iron, and amber. It has also oil deposits and a large area of sugar land and tobacco land; and its coffee, cocoa, and vanilla products are very valuable. The Dominican Republic produces sugar at a cost of less than 2 cents a pound, and can lay sugar down on the docks in New York for less than 3 cents a pound. Its tobacco for cigars is 6 to 9 cents a pound; coffee is 7, and cocoa 9. There are many tropical fruits which might find a ready market in the large cities of the United States.

CALL FOR BIDS ON ELECTRIC LIGHT PLANT.—The city government of San Francisco de Macoris has asked for sealed bids for the installation of an electric plant for the lighting of the city. Specifications are that the plant must have power sufficient to furnish 4,000 incandescent 16-candle lamps and 85 arc lights of 1,500 candlepower. The plant may have a direct current or an alternating current not to exceed 25 volts and three dynamos—one for the incandescent lights, one for the arc lights, and one reserve.

ECUADOR.

PROBABLE FORMATION OF FRUIT STEAMER COMPANY OF THE PACIFIC.—Plans are being made for the formation of a fruit steamer company of the Pacific with main offices in Guayaquil. Such a company would do much to develop the Ecuadorean trade in fruit and the

manufacture of sacks from banana fiber which the new company expects to develop as an industry.

LIGNITE (BROWN COAL) MINE.—The Registro Oficial publishes the discovery and denunciation of a lignite mine in the parish of Simiatug, Canton Guaranda.

AGRICULTURE PROMOTION.—The committee for the promotion of agriculture held a live stock fair in the Canton of Mejia. The committee is also trying to secure seeds of the honey mesquite tree (algarroba) to introduce it into the northern Provinces.

ASSOCIATION OF IMPORTERS.—The principal merchants of Guayaquil are to form an association of importers under the laws of the Government for their common interests and protection.

DUTCH COMMERCIAL MISSION.—A Dutch commercial mission is now in Ecuador for the purpose of visiting the principal production centers of the country, and also to undertake the construction of various public works, among which are: The drainage and repair of the streets of Guayaquil, the rebuilding of the fiscal dock of the port, etc. The Dutch syndicate is also considering the building of new railroad lines in parts of the country which may be profitably developed.

GUATEMALA.

INDUSTRIAL COMPANIES. The Central American Powder Co. and the American Foreign Light Co., both of Wilmington, Del., have been authorized to do business in the Republic.

HONDURAS.

MINING.—In 1920 the New York & Honduras Rosario Mining Co. produced 1,573,185 ounces of silver and 9,532 ounces of gold. This company employs on an average about 1,500 persons. The output of the Sabana Grande Honduras Mining Co. in the fiscal year 1919-20 was 301,972 ounces of silver and 1,222 ounces of gold.

SUGAR.—The Honduras Sugar Distilling Co. of La Ceiba has been authorized by the Honduran government to increase its capital to \$1,000,000, American gold.

INSURANCE COMPANY.—The Continental Insurance Co., a corporation organized under the laws of the State of New York, has been recognized by the Honduran government as a juridic entity and authorized to do business in the Republic.

WIRELESS TELEGRAPH STATION.—A wireless telegraph station, with towers 150 feet high and equipped for the transmission of messages within a radius of from 300 to 600 miles, according to atmospheric conditions, has been installed in Tegucigalpa. This plant is capable of receiving messages direct from New Orleans, and, under favorable weather conditions, from Washington.

MEXICO.

OFFICIAL RÉSUMÉ OF MOVEMENT OF MINING GRANTS.—The official bulletin of the department of mines of Mexico gives a résumé of the mining grants for the month of August, 1920, as follows: In the States of Aguascalientes, Lower California, Coahuila, Chihuahua, Durango, Guanajuato, Guerrero, Hidalgo, Jalisco, Mexico, Michoacan, Nayarit, Nuevo Leon, Oaxaca, San Luis Potosi, Sinaloa, Sonora, Veracruz, and Zacatecas, 140 mining concessions were granted covering an area of 1,459 hectares, 73 aras, and 11 centiaras; 776 mining concessions expired which covered an area of 11,885 hectares, 74 aras, and 39 centiaras, and 5 mining concessions were revoked, which covered an area of 40 hectares. The résumé of mining grants in effect on August 31, 1920, shows 29,096 grants covering an area of 388,761 hectares, 31 aras, and 8 centiaras.

PLACER MINES PRODUCE OTHER METALS BESIDE GOLD.—An article in the bulletin of the department of mines states that in the placer mines of Gualalcazar sulphide of mercury, sulphide of silver, galena, and oxides of iron, such as hematites and hydrated oxide of iron and cinnabar, are found in addition to gold. The Government analyses of the different ores from the placer mine districts have shown the following percentages: Mercury, from 15.5 kilograms to 59.3 kilograms per ton; gold, from 18.8 grams to 99 grams; silver, from 147 grams to 690 grams; lead, from 8 kilograms to 20 kilograms per ton; and iron from 40 to 64 per cent, making a minimum value per ton over 100 pesos, gold. The Indians of Guadalcazar pan the gold in the placer mines and distill the mercury in simple ovens. A mining company has been formed to exploit the metals of these placer mines by the simple method of passing ore through graded sieves which separate the material according to volume and specific weight. The sifting of the sands saves all the different minerals, and mercury is distilled and gold amalgamated on the spot.

IRRIGATION WORKS IN CHIHUAHUA.—The government of the State of Chihuahua is making plans for irrigation works to water an area of 2,000,000 square meters or 200 square hectares of land from the water held by the Presa de Boquilla on the Conchos River. A commission of 10 engineers, soon to be increased to 30, is busy preparing the plans for the irrigation canals which will conduct the water from the artificial lake 43 kilometers long by 10 kilometers wide in the widest parts, which contains about 3,200,000,000 cubic meters of water. At present the water is utilized in the development of electric power in a plant at the base of the dam. The plant has six large turbine engines and dynamos of Swiss make, and can develop 10,000 horsepower with an excess of 10 per cent. At present only a small force is being used in the Parral mines. Towers are soon to be built

to conduct lines to Ciudad Camargo. The plans for the irrigation project are to be completed in the third quarter of the present year, and the cost of the works will be borne by the State of Chihuahua.

REDUCTION OF TAX ON IMPORTED COTTONS.—The department of hacienda states that after due consideration the petition made by Mexican manufacturers of cotton goods that 50 per cent be added to the present import tax on cotton goods has been disapproved, as it would increase the price of cotton unduly. The cost of cotton production, including wages, is at 1.58 pesos per kilo, and the sale price 2.39 pesos, showing a margin of 81 centavos per kilo, or 51.3 per cent.

NEW SECTION IN THE DEPARTMENT OF AGRICULTURE.—A section of explorations and drilling for irrigation has lately been added to the department of agriculture. The new office will determine the proper regions, based on geological survey, for dams and artesian wells. The office is already using three drills; four more are on the way for delivery, and nine more are to be ordered.

ONE HUNDRED AND NINETY-TWO THOUSAND HECTARES ARE DESIRED BY GERMAN SYNDICATE.—A syndicate, made up mostly of Germans from the State of Texas, is desirous of obtaining lands for colonization to the extent of 35,000 hectares of arable land and the remainder of summer pasture at Las Vacas, Coahuila, opposite Del Rio, Tex. The project has been considered by various governments of Mexico and is now before the present government.

AUTOMOBILE SHOW APRIL 20.—The International Automobile Exposition was opened in Mexico on April 20, in the National Theater. It indicates clearly the increased interest in automobile traffic, as well as the prospect of improved roads.

THE PROFITS OF EL AGUILA.—During the past year the Compañía Mexicana de Petroleo El Águila made a net profit of 54,659,000 pesos gold. The company's paid-up capital is 86,000,000 pesos, and out of the past year's profits it paid to stockholders 49 per cent—the largest dividend paid by any oil company. The pipe lines of this company have a carrying capacity of 110,000 barrels daily, but the system will be increased to accommodate 159,000 barrels daily. Its refineries turn out 45,000 barrels daily, and another refinery is being built which will have a daily capacity of 90,000 barrels. The capital of the company is to be increased, but the new stock will be taken up by the shareholders.

NICARAGUA.

SUGAR.—There are 13 sugar mills in Nicaragua, which produce annually 275,000 quintals of raw sugar of 100 pounds each. This is practically the entire output of the Republic. About half of the production comes from the San Antonio mill at Granada, which is owned and operated by the Nicaraguan Sugar Estates (Ltd.).

The annual production of sugar in Nicaragua is normally about 30,000,000 pounds. The Government imposes no tax on exports of sugar, but limits the amount, subject to exportation, to 60 per cent of the production. There are approximately 12,000 acres of sugarcane lands under cultivation in the Republic. The principal districts in which sugar cane is grown are those of Leon and Chinandega. Because of the great humidity prevalent during the rainy season, thereby causing sugar to sweat and rendering it useless for commercial purposes, it is necessary either to export or consume the crop each year as it is produced. There is, therefore, at the beginning of the grinding season practically no stock of sugar on hand in the country. Most of the sugar machinery used in Nicaragua is of English manufacture. American sugar machinery, however, is becoming more and more popular, and one of the large mills which produces centrifugal sugar was recently equipped with a complete installation of machinery from the United States. There are no sugar refineries in Nicaragua.

PROPOSED CLOTH FACTORY.—Preliminary steps have been taken for the establishment of a factory for the manufacture of cloth. The cost of the installation is estimated at \$300,000. The location has not yet been definitely determined, but it is believed that it will be near the cotton-producing district of the Republic.

COCOANUT PLANTATION.—Press reports state that an American oil company has bought the Cocañ Plantation on the Atlantic coast. Copra in large quantities is manufactured on this plantation. This industry is to be developed on a large scale.

NEW STEAMSHIP COMPANY.—The Snyder Steamship Co. was recently organized, to engage in the transportation and growing of bananas along the Atlantic coast of Nicaragua.

PETROLEUM.—Dr. Joaquin Vigil has contracted with the Nicaraguan Government to prospect for petroleum and natural gases, and to report to the national authorities of the existence of these products in the country.

CORINTO A PORT OF CALL.—The Pacific Mail Steamship Co. has made Corinto a regular port of call for its freight steamers which ply between San Francisco, Baltimore, and New York. This means a direct service of 15 days to Baltimore and New York without transshipment at Cristobal.

EXPORTS FROM CORINTO TO THE UNITED STATES.—The exports from the port of Corinto to the United States in 1920 amounted to \$5,628,345. The exports from San Juan del Sur during the same year aggregated a value of \$180,032.

SHIPMENTS OF COFFEE TO FRANCE.—Recently the French treaty of 1902, the operation of which had been suspended, was again put into effect. The result has been an increase in the exports of coffee

to France, the latter country having always been the chief market for Nicaraguan coffee.

PARAGUAY.

NEW ACTIVITIES OF AN AMERICAN PACKING PLANT.—An American corporation owning and operating a meat-packing plant at San Antonio, Paraguay, is planning to add to its business the manufacture of citrus fruit juices and engage in exporting oranges to Argentina and Uruguay. It is estimated that the plant will handle annually 500 tons of tangerines, 500 tons of bitter oranges, 1,000 tons of sweet oranges, 250 tons of lemons, 500 tons of limes, 100 tons of mangoes, and 100 tons of guavas. The company proposes to ship oranges in crates to Argentina and Uruguay, and during the northern winter months to the United States and England. The company proposes to establish experimental farms and instruct planters in the care of orange groves and the picking and marketing of the fruit. This company also operates a quebracho extract plant at Puerto Pinasco, the production in 1919 having exceeded 13,000,000 pounds, nearly all of which was exported to the United States. During the same year the output of the meat-packing plant at San Antonio was approximately 10,000,000 pounds of canned meats. The packing plant has recently installed freezing facilities, and will shortly begin the refrigeration of beef. In addition to the market supply the company has on its own ranches in various parts of the Republic about 80,000 head of cattle from which to draw its supply of meat.

CHINESE TEA PLANT.—A nursery has been established in the department of Villarica for the cultivation of the Chinese tea plant. Experiments show that the Viridis variety of tea can be successfully grown in Paraguay.

EXPORTS IN 1920.—The exports of Paraguay in 1920 aggregated a value of 14,650,925 pesos gold (gold peso=about \$0.97). The principal products exported were: Meats, 871,512 kilos; extract of meat, 23,223 kilos; cattle hides, salted, 147,691 kilos; dry, 42,796 kilos; wool, 58,885 kilos; jerked beef, 901,482 kilos; sugar, 1,410,877 kilos; ginned cotton, 163,812 kilos; cigars, 8,084,427 kilos; Paraguayan tea, 4,401,660 kilos; extract of quebracho, 21,953 tons; and fence posts, 2,922,487.

IMPORTS.—In 1920 Paraguay imported merchandise to the value of 13,118,594 gold pesos. These imports in gold pesos by countries were as follows: Argentina, 5,022,489; United States, 3,129,556; England, 2,605,816; Spain, 565,114; France, 366,076; Germany, 355,410; Japan, 120,555; Belgium, 4,834; Brazil, 169,951; Chile, 7,902; Holland, 65,316; Italy, 290,031; Portugal, 6,521; Uruguay, 366,976; Norway, 11,565; Cuba, 8,182; Switzerland, 5,654; India, 9,708; China, 4,380; and other countries, 2,558.

PERU.

IMPORTED SHEEP, CATTLE, AND HORSES FROM ENGLAND.—Col. Sturdy, under the joint auspices of the Peruvian Government and Peruvian corporation, has been making extensive investigations regarding the development of the cattle industry in southern Peru. As the result of a trip to England he has assembled for shipment many fine specimens of blooded stock, including 120 rams of the Down breeds of England; 4 Soay rams from the flock of the Duke of Richmond, original Scotch strain credited with having the strongest wool fiber known; 5 merino lambs from the National Stud Fold of France; 30 ewe lambs of the Suffolk breed; 3 dairy Shorthorn bulls; 1 stallion; and 6 mares of English and Irish breeds; 10 sheep dogs; and 150 fowls of various classes. In addition to the animals the ship is bringing 5 Scotch shepherds, experts in the care of sheep, and one wool classifier. Capt. W. W. Henderson, a member of the Royal College of Veterinary Surgeons, has been appointed by the Government to supervise the milk and meat supply in Lima. As a result of the visit of Col. Sturdy to England the wool experts of the University of Leeds are making exhaustive studies of the Peruvian alpaca, llama, and other wools.

PARACAS COAL FIELDS.—Drilling is now being done in the Paracas coal fields, 120 miles south of Callao and 18 south of Pisco, in order to determine the commercial value of the claims held in that region. The workings are situated on the south side of the Peninsula of Paracas, on the Bay of Lagunillos, with still-water anchorage and good shipping facilities. The claim was worked to some extent from 1906 to 1909, but at that time the English and Australian coal which could be procured along the Peruvian and Chilean coast made the competition too keen. The present owners of the claim consider that with coal at current prices in the United States it will be profitable to work this concession, as this coal showed 7,843 calories by the Goutal test.

EXPORTS THROUGH THE PORT OF GUAYAQUIL TO PERUVIAN PORTS.—From the port of Guayaquil the exports to Peru in the last quarter of 1920 amounted to 45,769 pieces of freight, weighing 1,228,029 kilograms and worth 129,683.30 sucres. The principal Peruvian ports of entry were Callao, Zorritos, Paita, Pimental, Pacasmayo, Salaverry, Pisco, and Mollendo. The principal articles exported to these points from Guayaquil were annatto, door and window frames, used casks, cacao, cacao paste, coffee, cut sugar cane, sleepers, mangrove bark, toquilla straw, macora straw, tobacco, and empty tanks.

ORDERS FOR GUANO.—The Guano Administrative Co. has stated that all orders for guano for the year must be made before April 1. Each farmer must prepay 4 soles per ton of his order, the remainder to be

paid at the rate of 2 Peruvian pounds upon the unloading of guano in the port of destination, and the balance in 90-day notes, renewable upon request within the time limit ending April 30, 1922.

EXPORTATION OF NECESSITIES.—The province of Ica has passed a resolution permitting the exportation of grains and other necessities to other provinces of Peru.

SALVADOR.

EXHIBITS OF NATIONAL PRODUCTS.—A permanent exhibit of Salvadorean products has been established by the consul general of Salvador at Bordeaux, France. Similar exhibits are maintained in Paris, London, New York, San Francisco, and other important commercial and industrial centers.

HAT FACTORY.—A factory for the manufacture of straw hats has been established in the city of San Salvador. A native straw known as palma criolla will be used in the manufacture of hats.

PROPOSED AUTOBUS SERVICE.—The San Salvador street railway company recently purchased in the United States 20 passenger autobusses. These will be tested with a view to replacing the present mule car service.

COMMERCIAL TRAVELERS' CONVENTION.—On January 18, 1921, ratifications of the commercial travelers' convention, concluded between the Republic of Salvador and the United States in Washington on January 28, 1919, were exchanged in the city of San Salvador.

URUGUAY.

CROP ESTIMATE FOR 1920-21.—The crop estimate for 1920-21 of wheat, linseed, and oats is as follows: Hectares sown in wheat, 303,505; estimated yield, 280,892 tons; hectares sown in linseed, 37,700; estimated yield, 26,811 tons; and hectares sown in oats, 30,692 hectares; estimated yield, 28,871 tons.

WORK OF BIOLOGICAL INSTITUTE.—The biological institute operated under the direction of the Uruguayan Rural Association has done some very fine work in experimenting to find a means to make cattle immune from Texas fever known as Piropasmosis (Tristeza). Several valuable bulls were held under preventive treatment at the biological institute before sending them as sires to different departments where, as a result, they will be much less likely to succumb to the disease that has wrought such havoc in the northern part of the country. This institute is also developing an anticarbuncle vaccine. The chemical section of the institute is experimenting in soil testing, with the purpose of making known to the farmers the kind of crops to be raised and the fertilizers to be used to obtain good results in each case.

PRADO SHEEP FAIR.—The yearly sheep fair was held on February 20, but was not as brilliant this year as previously, in spite of fine exhibits from well-known establishments. This was due to the low price of wool.

STEAMER LINE FROM MONTEVIDEO TO SALTO.—The administration of the port in response to a request from the merchants of Salto has decided to establish a one or two steamer line from Montevideo to Salto.

DAIRY SCHOOL URGED BY COUNCIL IN SEVENTH CONGRESS OF PROMOTION IN NUEVA HELVETIA.—One of the most important questions taken up by the Seventh Congress of Promotion in Nueva Helvetia was the founding of a dairy school. The note to the minister of industries sent by the executive committee stated that the Uruguayan methods in the dairy industry were primitive and antiquated; that the cheese manufactured now included only six kinds, as contrasted with Argentina, where more than 40 varieties were made. It requested that the founding of a dairy school be considered and acted upon to the end that the care of milk and manufacture of dairy products be taught in the Province. It suggested also that scholarships be offered to students in the school. The committee also stated that dairying was one of the great resources of the country which had never been developed.

VENEZUELA.

• **PRODUCTION OF COTTON.**—Data published in the bulletin of the department of fomento show that the estimated annual production of cotton in 14 of the principal cotton-producing States of the Republic is 7,153,032 kilos. While cotton thrives in all the States and territories of Venezuela, the foregoing estimate is based upon the cultivation of cotton in those States which produce it in commercial quantities.

COFFEE EXPORTS FROM MARACAIBO.—The exports of coffee from Maracaibo in January last consisted of 30,663 bags of 60 kilos each, as compared with 17,558 bags in December, 1920, and 43,877 bags in January, 1920. In February, 1921, the shipments of coffee from this port totaled 45,480 bags, or an increase of 14,817 bags over the previous month. Nearly all of Venezuela's exports of coffee go to the United States.

PORT OF ENCONTRADOS.—The port of Encontrados, which has been temporarily closed to commerce, was recently opened for the transaction of business.



ECONOMIC AND FINANCIAL AFFAIRS

ARGENTINA.

STATE OF ARGENTINE BANKS ON DECEMBER 31, 1920.—The state of the domestic and foreign banks operating in Argentina on December 31, 1920, was as follows: Time deposits, current accounts, and savings, 10,763,550 pesos gold and 3,505,378,343 pesos national currency; discounts and loans, 8,298,964 pesos gold and 2,486,354,118 pesos currency; money in the country, 45,863,095 pesos gold and 1,081,134,201 pesos currency; capital realized or belonging to the Argentine Republic, 46,883,402 pesos gold and 381,848,075 pesos currency.

AMOUNT OF COINED GOLD IN COUNTRY.—On December 31, 1920, the amount of coined gold in Argentina was 466,476,764 pesos. The total on January 31, 1921, was 466,476,793 pesos.

BONDS FOR GOLD ON DEPOSIT WITH LEGATIONS.—The movement of bonds for gold on deposit with legations was as follows: Amount on hand, December 31, 1920, 4,123,157 pesos; January 31, 1921, same amount; total amount on January 31, as authorized in accordance with laws 3871 and 9480, 470,599,950 pesos in gold, equivalent to 1,069,545,343 pesos legal currency.

BOLIVIA.

PAYMENT OF FRENCH LOAN.—The Bolivian Government recently arranged, through the three principal banks of the Republic, to liquidate its debt to France from the proceeds of an internal loan of 11,600,000 bolivianos. The total indebtedness to France, including the 1910 and the 1913 loans, at the time fixed for the payment of the same, aggregated 56,119,392 francs. This sum was arranged to be liquidated by a transfer of funds held by the Bolivian Government in France, plus 43,500,000 francs to be paid the French Government through the Bolivian banks referred to.

BRAZIL.

ISSUE OF PAPER MONEY.—The Brazilian Government has taken steps to improve the financial condition of the country by authorizing an issue of paper money, not to exceed 50,000,000 milreis (about \$12,500,000), to be loaned to the different States through the Bank of Brazil or some other suitable agency. Authority is given to use all or part of the credit thus raised for the benefit of national production, as may be deemed expedient, or to the establishment of a special

credit in New York and London, to be used in buying and selling exchange, with the purpose of aiding commerce and to prevent sharp fluctuations in exchange. To prevent speculation in exchange the Government will regulate and supervise banks and banking firms, thus limiting their activities to legitimate business transactions. The restriction on exports of Brazilian food products has been removed.

SPECIAL DEPARTMENT OF BANK OF BRAZIL.—Congress has provided for the establishment of a special department in the Bank of Brazil, under a director appointed by the President of the Republic. This department will bear the name of "Carteira de Emissao e Redesconto," and its operations, except under special conditions and by order of the President of the Republic, will be limited to 100,000,000 milreis. Rediscount paper will be bills of exchange and drafts drawn in Brazilian money, to order, for amounts of not less than 5,000 milreis duly guaranteed. The period of rediscount shall not exceed four months, with interest at 6 per cent per annum. Only agricultural or commercial paper will be accepted.

CHILE.

SAVINGS BANKS.—The state of the savings banks on December 31, 1920, was as follows: Caja Nacional de Ahorros, 678,534 depositors and 146,622,862 pesos on deposit, as against 625,855 depositors and 143,159,460 pesos on deposit in December, 1919. The Caja de Ahorros of Santiago had 307,158 depositors and 56,476,636 pesos on deposit, as against 283,822 depositors and 58,103,514 pesos on deposit in December, 1919.

THE STATE OF THE BANKS OF CHILE.—The state of the banks of Chile on December 31, 1920, was as follows: Liabilities: Sight deposits and accounts current, 528,431,323 pesos national currency; time deposits, 359,366,645 pesos currency; sight deposits and time deposits in gold, 204,372,868 pesos; total deposits, 887,797,968 pesos currency and 204,372,868 pesos gold; sight bank drafts, 12,235,451 pesos currency and 60,011,597 pesos gold; credits, 91,557,496 pesos currency and 25,989,309 pesos gold; deposits in bonds and documents, 736,867,472 pesos currency and 25,232,004 pesos gold; paid-up capital, 296,388,784 pesos currency and 2,451,021 pesos gold; reserve fund, 116,294,381 pesos currency and 20,589,104 pesos gold; accounts, 226,601,217 pesos currency and 84,599,407 pesos gold; unpaid dividends, 579,666 pesos currency; profit and loss fund, 21,289,545 pesos currency; grand total of liabilities, 2,389,611,985 pesos currency and 423,245,313 pesos gold. Assets: Cash on hand, 155,290,987 pesos currency and 16,353,115 pesos gold; checks and available funds in other banks, 122,373,973 pesos currency and 12,904,961 pesos gold; other funds and investments, 102,214,600 pesos currency and 8,109,242 pesos gold; bonds and documents in custody and guarantee, 736,867,472 pesos currency and 84,993,488

pesos gold; loans and securities of public funds, 1,070,828,358 pesos currency and 135,166,889 pesos gold; funds of the ministers, 15,046,163 pesos currency and 2,675,661 pesos gold; foreign loans, 2,172,272 pesos currency and 147,061 pesos gold; debtors, 13,256,709 pesos currency and 21,390,117 pesos gold; various accounts, 171,561,447 pesos currency and 141,504,776 pesos gold; grand total of assets, 2,389,611,985 pesos currency and 423,245,313 pesos gold.

RAILROAD RECEIPTS.—During 1920 the second zone of the State railroads collected the sum of 38,584,071 pesos currency. This zone includes the lines between the stations of Alameda and Talca and the branches from Alameda to San Antonio, Rancagua to Doñihue, Pelequen to Las Cabras, San Fernando to Larrain Alcalde, Curico to Hualañe, and from Talca to San Clemente and to Constitución.

CUSTOMS REVENUE.—For the year 1920 the total customs revenue of the Republic amounted to 141,255,585 pesos gold, of which 96,578,703 pesos represented export taxes, 40,679,386 pesos the import taxes, and 3,997,496 pesos lesser revenues. This sum compared with the collection of 1919 shows an increase of 66,784,296 pesos for 1920.

CONVERSION FUNDS.—According to Government statements the conversion fund of Chile on November 15, 1920, was as follows: Bank of England, 30,651,245 pesos; mint gold paste, 78,801,728 pesos; pounds sterling in gold, 1,051,116 pesos; dollars in gold, 1,631,678 pesos; Chilean gold, 1,974,693 pesos; and other gold coins, 140 pesos, giving a total of 114,110,600 pesos.

LOAN.—The Chilean Government has contracted a loan of \$24,000,000 with the Guaranty Trust Co. for a term of 20 years. The sum is to be used principally for the expenses of the railroad company and to pay various debts and for the purchase of equipment.

LOAN FOR PUBLIC WORKS.—The President has been authorized by Congress to contract a loan for the sum of 50,000,000 pesos, of which 22,750,000 pesos is to be used in the railroads; 10,348,000 pesos in roads; in hydraulic works, 4,566,000 pesos; and in bridges, 2,236,000 pesos, leaving a balance for the contracting of new works.

CIRCULATION OF BILLS AND TREASURY CERTIFICATES.—On December 31, 1920, fiscal bills were in circulation to the amount of 195,698,618 pesos, distributed as follows: Old emission, 853,110 pesos; of the new emission, 150,000,000 pesos; gold guarantee, 44,845,500 pesos. Treasury certificates in circulation on December 31 amounted to 107,123,000 pesos, divided as follows: Certificates to the banks, 31,227,500 pesos, and to the nitrate companies, 75,895,500 pesos. In accordance with these figures the bills and certificates in circulation gave a total of 302,821,619 pesos.

BANCO HOLANDÉS DE CHILE.—The Banco Holandés, founded with foreign capital, has been established in the city of Santiago to develop commerce. The bank has a branch in Valparaiso. The Banco Español de Chile has acquired the Banco de Santiago with all of its property and business.

COLOMBIA.

REVENUE OF THE DEPARTMENT OF CAUCA.—The total revenue of the department of Cauca from July to December, 1920, was 246,394 pesos. The total expenditures of the administration in the same period was 40,952. The value of the liquors furnished by the contractor in the six months was 44,319 pesos, producing 161,122 pesos, or an average monthly revenue of 26,854 pesos; to this sum there should be added the advance sum for August of 1,400 pesos, in which are included the revenues from the Province of Micay and the proportionate monthly revenue on the 38,574 bottles of liquor in storage on December 31. The per cent of expenditures of administration is barely 16½ per cent of the gross product of the revenues.

CONTRACT.—A contract has been made for a loan of \$1,205,240 to the minister of the treasury by the Bogota branch of the National City Bank of New York.

COINAGE OF THE MINT.—The message of the governor of Antioquia contains the statement that coins to the value of \$20,478,355 have been stamped in the mint at Medellin since 1917, of which 13,044,232.50 pesos corresponded to the amount minted in 1919 and 4,437,190 pesos in the first six months of 1920, no coins having been minted in the second six months of 1920.

DEPARTMENTAL BUDGET.—The secretary of hacienda of the department has presented to the assembly the following budget: Revenue, 3,029,492 pesos, of which the principal items were: Liquors, 1,605,000 pesos; tobacco, 930,000 pesos; slaughter tax, 300,000 pesos; registration, 100,000 pesos, and the mint, 40,000 pesos. Expenditures, 3,029,493 pesos, of which the principal items were: Department of treasury, 1,145,219 pesos; department of government, 405,509 pesos; department of public instruction, 864,495 pesos; department of the public debt, 150,982 pesos; and the department of public charity, 111,186 pesos.

CUBA.

TREASURY PAYMENTS DURING FEBRUARY.—The secretary of the treasury states that during February \$12,596,300 were paid for different accounts, the larger part being expended on public works.

CUSTOMS RECEIPTS.—The general treasury of the Republic received \$250,000 in customs receipts for February from Santiago de Cuba; and \$250,000 from Isabela de Sagua. Habana's customs receipts for that month were \$4,988,940.

BANKING LEGISLATION COMMISSION.—The banking legislation commission met in March to consider a suitable code of banking legislation for Cuba.

COLLECTIONS IN THE FISCAL ZONE OF ORIENTE DE LA HABANA.—The collections in the fiscal zone of Oriente de la Habana for February were \$200 over the previous month's collections. There follow several classifications in groups giving items of the revenue: Property taxes, contributions from banks and societies, and the 4 per cent law produced revenue amounting to \$317,291; stamp tax, census revenue, rents, forestal revenue, penal colony products, trade marks and patents, stock brands, matriculations and licenses, \$3,527; court fines, interest, railroad commission, national health board, miscellaneous, \$38,942; workmen's houses, epidemic fund, tourists' law, \$41,678; seals for tax, alcoholic liquors, reimbursement of tax, \$54,708; guarantee seals, \$914; total, \$581,016.

BANCO MERCANTIL IN HOLGUIN.—A new bank known as the Banco Mercantil of Holguin was opened in that town in April.

HABANA CLEARING HOUSE.—A Habana clearing house has been formed by the Cuban and foreign banks belonging to the association. National banks or foreign banks formed in accordance with the rules of the code of commerce or in accordance with the laws of their own country may solicit through their representatives admission to the Habana clearing house.

DOMINICAN REPUBLIC.

BANK CLOSURE.—The American Foreign Banking Co. has closed. Its business has been turned over to the Royal Bank of Canada.

CITY BONDS OF PUERTO PLATA.—The city government of Puerto Plata has placed on sale at the city treasury bonds for the purchase and improvement of the aqueduct. The value of these bonds is \$500 and they bear 9 per cent annual interest, payable quarterly by the International Banking Corporation upon presentation of coupons. The interest begins on January 12, 1921.

CUSTOMS COLLECTIONS.—The aggregate gross customs collections for the year 1919, from all sources, amounted to \$4,457,393.48—a gain of \$138,578 over 1918. Revenues from duties on importations and exportation amounted to \$4,032,665.38 and \$261,257.80 respectively, the values from which they were derived being \$61,818,319; balance of trade, \$17,615,065.

ECUADOR.

REVENUE FROM THE DOCKS AND CUSTOMS OF GUAYAQUIL.—The revenue for the 10-year period ending with 1919, inclusive, from the docks of Guayaquil was 6,108,663.19 sucres; import customs revenue for the same period amounted to 54,263,822.05 sucres; and the total revenue from the docks and customs revenue on importation was

60,372,485.24 sucres. The total revenue for the same period from the customs duties on importation through the port of Manta were 2,816,917.11 sucres.

BUDGET OF THE CENTRAL COMMITTEE OF CHARITY OF QUITO.—The budget of the central committee of public charity of Quito published by the Registro Oficial shows a calculated revenue for the year 1921 of 44,098.56 sucres, and expenditures to the same amount.

IMPORTS, EXPORTS, AND DOCK TAXES.—The import, export, dock, and all related taxes collected by the customs of Guayaquil during the first 15 days of February amounted to 522,259.37 sucres, as against 302,729.97 sucres collected on the same accounts in the corresponding period of 1920.

EXTENSION OF CONTRACT WITH THE BANCO DE PICHINCHA.—It has been officially agreed to extend the contract with the Banco de Pichincha to 300,000 sucres, in order to continue work upon the Quito-Esmeraldas Railroad.

GUATEMALA.

REPEAL OF EXPORT DUTIES ON SUGAR.—President Herrera has issued a decree repealing the export duties on refined and raw sugar. This same decree imposes a tax of 25 cents gold per quintal on refined sugar, and 5 cents gold per quintal on raw sugar or panela produced in the country. When, however, the production is less than 200 quintales of either refined or raw sugar the tax is not imposed.

HONDURAS.

FINANCES.—The net revenues of the Government of Honduras for the fiscal year 1919-20 were 6,688,976 pesos, or 5,518,489 pesos in excess of the estimated net revenues. The expenditures in said year were 7,770,585 pesos, which left a deficit of 1,081,609 pesos. The total debt of the Nation on July 31, 1920, was 3,555,982 pesos.

SILVER COIN.—The Government of Honduras has prohibited the importation of silver coinage except that of the United States. A recent law makes half of the customs duties payable in United States currency at the rate of \$1 for two silver pesos. The Government will withdraw from circulation all silver coins except those of the United States.

MEXICO.

NEW MEXICAN COIN.—A new coin is to be added to the mintage of Mexico in celebration of the independence centenary. As the obverse side is to bear the head of the Emperor Iturbide, it is not unlikely that this coin will be named after this personage. It will be worth 50 pesos, and its size will be slightly larger than the American \$20 gold piece.

EXPENDITURES IN STATE BUDGET FOR 1921.—The budget of the State of Sonora for 1921 includes expenditures amounting to 3,309,057

pesos, of which the principal items were as follows: State legislature, 99,000 pesos; Government department, 78,060 pesos; tax collections, 136,980 pesos; public education, 2,198,174 pesos; and judicial cases of the primary court of claims, 117,300 pesos.

BANKS AUTHORIZED TO OPEN FOR BUSINESS.—The department of hacienda announced that the first two banks to be included in class A are the Bank of Nuevo León and the Mercantile Bank of Monterrey. As during the unsettled period these banks kept their funds on deposit in the United States, their securities and reserves are now intact and immediately available. The operation of these banks will have a beneficial effect on the business of the border regions where they are established.

SILVER MINES EXEMPTED FROM FEDERAL TAX ON PRODUCTION.—The *Diario Oficial* publishes a decree freeing the silver mines from the federal tax on production, and the consular and import taxes on machinery and explosives for the mining and production of silver have also been abolished. The tariff of 1910 will be effective as regards silver. These measures were taken to prevent the shutting down of the mines and turning off of workmen.

NICARAGUA.

FINANCES.—According to a report of the United States consul at Corinto, Nicaragua, the control of expenditures by a budget has been so successful in the Republic that at the end of each year since its adoption the Government has a surplus available for public improvements, such as highways and the rebuilding of the congressional hall and executive offices. At the close of 1920 the national debt was approximately \$9,000,000. The interest payments are met regularly, and the credit of the Nation is of such high standing that a new loan has been authorized, the proceeds of which will be used in building a railroad to the Atlantic coast, the purchase by the Government of a majority of the stock of the Pacific Railroad, and possibly for the refunding of the issue of 1909 bonds held in Great Britain.

MUNICIPAL LOAN.—The municipality of Managua has negotiated with the National Bank a loan of \$15,000, with interest at the rate of 12 per cent per annum. The money is to be used in the payment of expenses of the municipality. The municipality agrees to deposit all its funds in the bank referred to.

PANAMA.

DEFENSE BONDS.—The Republic of Panama has offered at par an issue of 500,000 balboas (balboa = \$1) of national defense bonds, bearing interest at 8 per cent, interest payable semiannually on March 10 and September 10 of each year. The bonds are to run for 10 years from March 10, 1922, unless the Government redeems them before that time at par plus accumulated interest.

DUTY ON SACKS.—A recent decree reduces the import duty on each empty sack intended for the exportation of native products from \$0.01 to \$0.005, the duty to be collected each time the sack is brought into the country.

PARAGUAY.

REORGANIZATION OF CUSTOM AND REVENUE DEPARTMENT.—The Paraguayan Government has arranged with an American expert to reorganize the customs and revenue department of the Government. It is estimated that three years will be required to complete the work of reorganization. The authorities have engaged a complete staff for the carrying out of the plan.

PERU.

FORMATION OF NATIONAL BANK IN PERU.—The "Financier" of London states that there are plans for the formation of a state bank in Peru with a capital of 30,000,000 Peruvian pounds. The bank will have the financing of the budget, but will not enter the field of regular banks as to deposits, discounts, and exports, although it will do rediscounting and may possibly act as a clearing house for the banks of Lima. It is probable that the work of collection of taxes, the company controlling the salt deposits of Peru, the guano company, the Deposit and Consignment Bank, and the Government Stores and Deposits Co. may later all be replaced by agencies of the future national bank. One of the chief sources of income for the bank will be the exclusive privilege of issuing national currency or bank notes. The gold reserve behind the present issue is over 95 per cent.

LOAN OF 3,000,000 POUNDS AT 8 PER CENT.—A law has been passed by which the President is authorized to contract a loan of 3,000,000 pounds at 8 per cent to pay the Government debts to the tax collection company, the administrative company of Government stores; the remainder to be used for the organization necessary to replace these companies and for other purposes. The guaranty for the capital and interest of the loan shall be furnished by the three companies mentioned and the guano administrative company. A committee to be known as the Agencia Fiscal Financiera, to be composed of members agreed upon by congress and the parties contracting the loan, will be formed to handle the loan. The Agencia Fiscal Financiera will collect the customs duties, internal taxes, and general Government revenue, and perform the services required by the general budget of the Republic according to the law of October 31, 1896, and other related laws. The Agencia Fiscal Financiera will not exist over three years, and prior to its expiration the Banco Nacional will have been formed and empowered by congress to take over the duties, rights, and privileges of the Agencia Fiscal Financiera.

REDUCTION OF NATIONAL EXPENDITURES IN THE BUDGET.—On February 22 the President issued a decree suppressing extraordinary

expenditures charged to the budget, limiting wherever possible to those strictly obligatory, because of the low price of national exports and the reduced revenue of the country.

SALVADOR.

BANKS.—On December 31, 1920, the paid-up capital of the Salvadoreño, Occidental, and the agricultural commercial banks aggregated 10,560,000 colons (colón=\$0.50). The total circulation of these three banks on the date mentioned was 8,219,410 colons, while the amount of gold on hand was \$2,364,686. The Government has authorized these banks to issue up to 21,120,000 colons in bank notes, of which amount 17,985,996 colons have already been issued. The metallic guaranty, therefore, represents 55 centavos for each colon in bank notes—an amount largely in excess of the guaranty required by law.

RECEIPTS AND EXPENDITURES.—In 1920 the revenues of the Government of Salvador aggregated 14,632,282 colons made up as follows: Imports, 6,254,619; exports, 2,494,570; liquors, 3,070,604; sealed paper and stamps, 603,899; direct taxes, 777,567; sundry receipts, 473,805; services, 905,245, and from national property, 51,972. During the period referred to the expenditures aggregated 13,375,975 colons, and consisted of the following items: Executive offices, 94,095; general assembly, 161,863; department of home affairs (gubernacion), 2,707,799; department of fomento, 1,403,975; public instruction, 1,182,524; foreign relations, 130,461; justice, 810,384; beneficencia (charity), 682,410; treasury, 1,047,552; public credit, 1,582,928; war, 3,455,262; agriculture, 55,756; and other expenses, 60,966.

PUBLIC DEBT.—The foreign and domestic debt of the Republic of Salvador on December 31, 1920, amounted to 29,242,315 colons, as compared with 25,881,576 colons on December 31, 1919. The internal debt on December 31, 1920, was 15,803,915 colons, and the foreign debt 13,438,400 colons.

AMERICAN BANK NOTES.—The legal value of American bank notes, which under article 2 of the monetary law of Salvador are legal tender for the payment of duties and imposts of all kinds, has been fixed at 2 colons to the dollar.

URUGUAY.

GOLD STATEMENT.—The gold statement published on March 2 shows a total gold reserve of 60,182,125 pesos, varying only slightly from the December statement, in which the amount was 60,207,219 pesos. Of the March 2 total 55,408,500 pesos corresponded to the Bank of the Republic, 1,999,866 pesos to the Uruguayan banks, and 2,773,758 pesos to foreign banks.

NATIONAL FINANCES.—The national accountant's office has presented to the minister of finance a memorandum setting forth the

probable state of the treasury at the end of the current fiscal year on June 30 next. According to this statement there will be a deficit of 1,867,071 pesos—a deficit which would probably have reached the sum of 3,712,247 pesos had it not been for the surplus of 849,375 pesos left from the fiscal year of 1919-20 and 999,400 pesos excess funds held by Messrs. Glyn, Mills, Currie & Co. This means that the expenditure for the year will exceed the revenue by 3,712,847 pesos, providing no more expenditures are made. New legislation is pending which will tend to increase the revenue by alteration in tax appraisals.

AUTHORIZATION OF EMISSION OF BONDS OF SERIES U.—Authorization has been given for the emission of 10,000,000 pesos in bonds of the series U, in accordance with the law of the Banco Hipotecario.

NEW 20-CENTAVO COINS MINTED IN CHILE.—The secretary general of the Banco de la Republica went to Chile with an assistant to bring back to Uruguay the 600,000 pesos worth of 20-centavo coins minted in that country.

GOLD EXPORT.—The banking firm of Supervielle & Co. and the Royal Bank of Canada have asked permission of the ministry of the treasury to export to New York 40,000 pesos and 25,000 pesos, gold, respectively.

DECEMBER BANK BALANCES.—The general inspection of banks and stock companies has handed in the following report to the ministry of the treasury for the month of December: Capital of Uruguayan banks, excluding the Banco de la Republica, 11,583,608.09 pesos, with a gold deposit of 1,999,665.78 pesos; greater emission, 6,015,660 pesos; and new emission, silver and nickel of 51,026.81 pesos; total 8,066,352.59 pesos. Deposits in accounts current, 8,666,491.24 pesos; savings and time deposits, 14,966,285.91 pesos; and loans, 29,604,364.11 pesos. Foreign banks: Capital, 3,727,222.08 pesos; on hand, coined gold, 2,695,495.1 pesos; greater emission, 16,117,350 pesos; lesser emission, silver and nickel, 121,384.66 pesos. Total 19,034,229.80 pesos. Deposits, accounts current, 20,987,606.79 pesos; savings and time deposits, 20,869,169.72 pesos; loans, 34,887,218.74 pesos.

Banco de la Republica: Capital, 20,335,955.15 pesos; cash on hand, 55,412,059 pesos, coined gold; new silver emission, 2,779,511 pesos; total cash on hand, 58,191,570 pesos. Deposits in accounts current, 44,622,240 pesos; savings and time deposits, 18,695,750 pesos; loans, 90,819,250 pesos. General total: Capital, 35,646,785.32 pesos; cash on hand, coined gold, 60,207,219.92 pesos, against 60,204,918.04 in the previous November; greater emission of 22,133,010 pesos, against 29,478,970 in November last; lesser emission, silver and nickel, 2,951,922.47 pesos, against 2,963,838.98 pesos in the previous November; total, 85,292,152.39 pesos, against 92,647,727.02 pesos in November last. Deposits: Accounts current

74,276,838.03 pesos, against 90,490,449.88 in November previous; savings and time deposits, 54,531,205.63 pesos, against 54,176,971.08 last November; loans, 151,310,832.85 pesos, against 160,837,947.04 last November. The amount of coined gold on December 31 was 60,188,263.11 pesos.

VENEZUELA.

PETROLEUM INVESTMENTS.—An estimate has been made showing that the total investment in Venezuelan oil exploration and drilling work to date is, approximately, \$50,000,000, and the prediction is made that within the next five years American companies alone will have expended \$30,000,000 in exploration and development work in the Venezuelan oil fields. The effect of the new petroleum law of January 19, 1920, and the taxation therein provided for is to prevent oil and coal lands from being held indefinitely as reserves by any large company willing to pay the surface tax, inasmuch as the lands contracted for and exploitation operations must be commenced within a fixed period of time, and exploitation must be continued without interruption unless justifiable reasons for not doing so can be shown.



LEGISLATION

CHILE.

CHANGE IN THE CUSTOMS TARIFF.—Congress has approved a law increasing the import duties 50 per cent in the customs tariff, with some exceptions specified in the law. The storage taxes established by article 17 of law No. 3066 of March 1, 1916, will be paid with a surcharge of 50 per cent. The law became effective in February last.

LAW OF SEALS, STAMPS, AND SEALED PAPER.—The national congress has approved the draft of a law, the chief provisions of which are as follows: There shall be tax stamps of 2, 5, 10, 20, 40, 50, and 90 centavos and of 1, 2, 5, 10, 25, 50, and 100 pesos; sealed paper of 10, 20, 40, 60, and 80 centavos and of 1, 2, 5, 10, 20, 25, and 50 pesos. Stamps shall be issued within one year in two distinct series, one for the judicial service and the second for the other cases covered by this law. The tax shall be collected as follows: By cash payment in cases covered by the law and verified by an affixed seal which shall be set upon the document; by stamps to be placed upon the

document; by stamps to be placed upon the document and the use of sealed paper which shall bear the seal of the State. The tax will be levied upon the following documents: Documents related to judicial acts, administrative service, certificates of examination and professional titles, maritime services, contracts, bond certificates, banking and exchange (Bolsa) operations, with commercial and industrial operations, and with acts and contracts of different kinds. The use of sealed paper is obligatory in documents directed to tribunals of justice and to the public authorities, as well as in the registries of notaries, curators of property (real estate), and by officials of the civil registry when acting in the capacity of notary. Documents granted in foreign countries which are to be executed, paid, or take effect in Chile shall be subject to the payment of the tax when presented to the ministry of foreign relations for legalization.

PANAMA.

EXPORT DUTIES.—The national assembly recently enacted a law removing the duty on exports of mineral in bulk (on value declared in the consular invoice and shipping documents), mahogany, cedar, or other woods for building purposes or cabinetmaking, either in boards or logs, and cocobola, guayacan, mora, and other woods offered for sale in logs or ties (except mangrove). The export duties on cocoanuts, copra, rubber, and resins are also removed. Export duties on the articles below mentioned are now as follows: Manganese, 25 cents per ton; precious metals and gold in bullion or jewelry, 2½ per cent of the insured value; pearls, loose or in jewelry, 6 per cent of the insured value; mother-of-pearl shell, 30 cents per quintal of 101.4 pounds; nispero gum, \$6 per quintal; sarsaparilla, \$2.50 per quintal; balsa wood, \$2 per 1,000 feet board measure; vegetable ivory, \$2.50 per ton; ipecacuanha root, \$12 per quintal; cocoa beans, \$0.005 per kilo; and bananas, \$0.025 per bunch.

PERU.

WIRELESS TELEPHONES AND TELEGRAPH SYSTEMS.—A decree has been issued which includes wireless telephone and telegraph service in the national mail and telegraph monopoly. The President alone has the right to grant concessions for the installation of wireless telephone or telegraph systems for the purpose of instruction or scientific experiment.

LAW INCREASING TAX ON ALCOHOL AND ALCOHOLIC BEVERAGES.—Law 4225 increases the tax on native grape alcohol from 34 to 72½ centavos per liter on absolute 100° Gay Lussac grade, according to the section of the Republic in which it is produced; and on native wines and beers from 1½ to 10 centavos. A proportionate increase is also made on imported alcohols and alcoholic beverages.

SALVADOR.

REGISTRATION OF TRADE MARKS.—The trade-mark laws of Salvador require that applications for registration be published three times in the official gazette, and if there is no opposition within the 90 days following the registration will be granted. In Salvador the ownership of a trade mark is based, not on priority of use as in the United States, but on priority of registration.

VENEZUELA.

TARIFF CHANGES.—The Venezuelan ministry of finance has passed three resolutions amending the tariff law. The amended law became operative April 1, 1921.



**PUBLIC INSTRUCTION
AND EDUCATION**

ARGENTINA.

GROUND FOR BUENOS AIRES SCHOOLS.—The municipality of Buenos Aires has conceded 34,000 square meters of ground for the construction of additions to the national schools of that district.

EXAMINATIONS IN AVICULTURE.—At the conclusion of the course in the School of Practical Aviculture of Buenos Aires, 44 out of 48 students passed the examination successfully; 68 students are enrolled for the second course. Beside the course on the care of poultry this school offers a course in practical agriculture.

STUDY OF FOOT AND MOUTH DISEASE.—In the last session of the convention in Buenos Aires considering foot and mouth disease it was decided to request the School of Medicine to add to its curriculum a comparative study of the pathology of foot and mouth disease in its relation to the infection of human beings.

STUDENT BAKERS OF LE BRETON SCHOLARSHIP.—The two student bakers under the Le Breton scholarship endowment have already arrived in the United States and most satisfactory reports are given to the ambassador of the manner in which they have begun their work.

COLEGIO DE SAN FRANCISCO GIVING FREE COURSES.—The Colegio de San Francisco offers courses in primary education from the first to sixth grades. Students obtaining sixth-grade certificates are eligible for entrance into the national schools. This same school also offers free night classes in bookkeeping, French, accounting, Spanish, and arithmetic.

SCHOOL EXPOSITION CLOSED.—The closing session of the school exposition which opened a month ago was held in the President Roca school, where the manual training exhibit was located. The system has been found to be productive of good results throughout the Provinces.

BOLIVIA.

SCHOOL FOR CHAUFFEURS.—A well-equipped school for the instruction of chauffeurs has been established in La Paz. In addition to the instruction given concerning the operation and care of automobiles, a practical course is given in the mechanics and repair of the machines.

COLOMBIA.

DEAN OF THE SCHOOL OF MEDICINE.—The directive council of the University of Medellín has elected Dr. Juan B. Montoya y Flores dean of the school of medicine of the university to fill the vacancy caused by the resignation of Dr. Vraulio Mejía.

VETERINARY SCHOOL.—The veterinary school created by law 44, October 28, 1920, will give classes in the school of agronomic sciences of Bogota. The diploma of veterinary surgeon will be given to students who have successfully passed the course in conformity with the requirements. The Government in accordance with the law by which the school was founded will give scholarships to poor students from the intendencias and commissariats, one scholarship to each such governmental district. Eventually the school will be located on Government property in the municipality of Madrid.

OFFICIAL SCHOOL OF ADVANCED AGRONOMY.—The President has issued a decree converting the superior school of agronomy into the official school of agronomic sciences in Colombia, and has defined the functions of the dean and the directive council and the conditions for the admission of students.

DIRECTOR OF THE ASTRONOMICAL OBSERVATORY.—Rev. Father Simón Sarasola, S. J., has been appointed director of the astronomical observatory. Father Sarasola has contributed to the advancement of physics in astronomy, meteorology, and magnetism in the observatories of Ebro, Habana, and Cienfuegos.

CUBA.

CUBAN STUDENTS FOR AMERICAN ARMY SCHOOLS.—The Cuban Government has accepted the invitation of the United States to send officers to Army schools. One officer from the Cuban Army will enter the United States Air Service Observation School at Fort Sill, Okla., and another will enter the Air Service Pilot School at Arcadia, Fla.

AGRICULTURAL COURSE IN CUBAN SCHOOLS.—The curriculum of the Cuban schools includes an agricultural course, which, beside teaching a love of outdoor life and respect for the products of field and forest, gives sufficient practical instruction in farming and garden-

ing to enable a pupil who may be deprived of higher education to earn his living by cultivation of the soil. The children are taught the following essential points: (a) To use selected seeds; (b) that the physical condition of the ground greatly affects the crop and must be considered by the planter who looks for satisfactory results; (c) that plants are forms of life which must be nourished by certain substances in the soil, and that these substances must be present in the proper proportion; (d) that the selection of good breeding stock is even more important than the careful selection of seed in planting, and that sanitation and care are as necessary for animals as for persons; (e) that agriculture is a question of science and experience, and that to obtain success one must follow the rules; and (f) that it is foolish to buy from merchants what one can raise oneself.

THE SCHOOL OF SUGAR RAISING IN HABANA.—The Escuela Azucarera de la Habana was founded in 1907 by Drs. C. A. Cuadrado and J. A. Simpson, but from 1909 it has been operated as a free institution. In the school grounds experiments are made in growing cane for practical demonstrations. The first course includes elementary chemistry and analytical chemistry, physics, mathematics, rudiments of natural history and agriculture, and the analysis of sugar cane and its products. The second course includes elementary and analytical chemistry, physics, mathematics, the study of the growth of cane and special analyses. The third course includes sugar business methods, accounting, mechanical drawing, applied mechanics, applied electricity, and a course in biology and bacteriology. In addition, there is a special course in fermentation, which includes the consideration of alcohol and fermented drinks.

DOMINICAN REPUBLIC.

Order No. 220, of June 30, 1920, issued by the department of public instruction, provides that in order to obtain the official certificate corresponding to the general studies of secondary education, the pupil must have passed the subjects given below. The figures in parentheses indicate the number of lessons per week required in each subject. The following are required subjects: First, second, and third year Spanish (5); first and second year English (5); elementary algebra (5); elementary geography (5); elementary physics and chemistry (5). Alternative subjects: One from each of the following groups: Fourth year English (2) or first year French (5), or first year Latin (5); biology (5), or anatomy, physiology, and hygiene (5); physical geography, or geography of America, or general geography (5); history of Santo Domingo, or history of America, or general history (5). Electives: Any three of the following: First year drawing (3); second year drawing (3); third year drawing (3); typewriting (3); first year stenography (3); second year stenography (3); first year bookkeeping (3); second year bookkeeping (3); commercial penmanship (3); first year domestic science (3); second

year domestic science (3). In order to obtain the official certificate corresponding to the division of secondary studies known as the Section of Physical and Natural Sciences, the following subjects and credits are necessary: Advanced physics (5); advanced chemistry (5); botany (5); zoology (5); geology (3); fourth year English, or second year French, or second year Latin (2). In order to obtain the official certificate corresponding to the Section of Physical and Mathematical Sciences, the following are required: Advanced physics (5); trigonometry (5); geometry (5); advanced algebra (3); mechanical drawing (5); fourth year English, or second year French, or second year Latin (2). In order to obtain the official certificate corresponding to the Section of Letters the following are required: Fourth year Spanish (7); history of civilization (5); political economy (2); constitutional law (3); sociology (3); fourth year English, or second year French, or second year Latin (2). To obtain the official certificate in normal studies the following are required: Psychology, pedagogy, history of pedagogy, school management, school hygiene. In the public schools the length of each course shall be one school year, and of each lesson at least 45 minutes except in manual work when 90 is the minimum.

ECUADOR.

DENTAL COURSES IN ECUADOR.—The Executive has published the regulations for courses in dentistry, which will require four years to complete, in order to obtain the degree of dental surgeon. First year: Anatomy, physiology, inorganic chemistry. Second year: Pathology, bacteriology, organic chemistry, elementary prosthesis. Third year: Therapeutics, advanced prosthesis, clinical dentistry. Fourth year: Clinical dentistry, local anatomy, surgery of the mouth. The instruction will be directed by the faculty of medicine; and to receive the degree of dental surgeon the student must previously have obtained the diplomas of licentiate and doctor, after having presented certificates for the degree of doctor of philosophy at the end of the third year. All work will be free to the public, except the cost of the materials.

BUILDING FOR THE PROTECTORA DE LA INFANCIA.—The society "Protectora de la Infancia" (Children's Protective Society), with the approval of the ministry of public instruction, has rented for four years a house in which the "Gil" asylum is to be established.

REORGANIZATION OF THE ACADEMIA ECUATORIANA.—Owing to deaths and resignations, the membership of the Academia Ecuatoriana has been much reduced. It has lately been reorganized and new members appointed, so that it may continue its cultural labors in conjunction with the Royal Academy of Spain.

FOUNDING OF NEW SCHOOLS.—The Registro Oficial publishes a decree establishing new parochial schools in the parishes of Pun, Putumayo, and Santa Rosa; in Papallacta, Archidona, Napo, La

Coca, Tena, and Aguarico, and in Mera, Indillama and Puyoall in the Province of Napo-Pastaza. In the Province of Santiago-Zamora schools are to be established in Macas, Suñac, Alapicos, Gualaquiza, Zamora, Sabinilla, Sumba, and Chito.

REGULATIONS FOR THE MILITARY SCHOOL.—Regulations for the military school have been published by the Registro Oficial. Students must be at least 17 and under 20 years of age in order to enter the school. They must have a certificate of baptism, or certificate of civil registry, a certificate of vaccination, and a copy of their bond. The course of the military school is four years in length.

NUMBER OF SCHOLARSHIPS TO BE PAID BY GOVERNMENT.—The number of full and half scholarships to be paid by the Government has been determined for the year 1921 as follows: Instituto Normal "Juan Montalvo," 45; Instituto Normal "Manuela Cañizales," 40; Escuela de Artes y Oficios of Quito, 50; half scholarships, Instituto Normal "Juan Montalvo," 16; and Instituto Normal "Manuela Cañizales," 29. Total cost, 28,320 sucres.

GUATEMALA.

AGRICULTURAL SCHOOL.—The agricultural school of Guatemala, recently organized in the city of Guatemala after the style of the agricultural school of Costa Rica, opened its 1921 course on the Aurora property, near the capital of the Republic of Guatemala, on March 7 last, the session to continue until December 23. In addition to the Guatemalan students a number of young men from Costa Rica will complete their studies in this school. The school is in charge of Luis Cruz Meza.

NORMAL SCHOOL.—A normal school for native girls has been established in the city of Guatemala. Provision is made for 100 students, and the sum of 60,000 pesos has been appropriated for the maintenance of the school.

HONDURAS.

SCHOOLS.—In 1919 the number of children of school age—that is to say, between the ages of 7 and 15 years—in the Republic of Honduras was 87,207. Of these 47,647 were males and 39,560 were females. The attendance during the year was 35,912.

In 1919 there were 867 schools in operation in the Republic, 846 of which were public schools. These schools employed 1,107 teachers, 420 of whom had college degrees. In the period from February to July, 1920, the schools in operation numbered 831. The Government and the municipalities expended for primary instruction during this period 906,679 pesos.

Of the 572 pupils who in 1919 received instruction in normal schools, 78 were given degrees; 37 were males and 41 females. The teaching staff of the normal schools numbered 121. During the year referred to 174 students were enrolled in commercial courses, 16 of

whom were given diplomas. During the same year five schools were devoted to secondary instruction with matriculates numbering 259. The teaching staff consisted of 71 professors, and the graduates numbered 34.

There are three professional schools in operation in the Republic; namely, the School of Jurisprudence and Political Sciences, that of Medicine and Surgery, and the School of Engineering. The enrollment in these schools was 78 and the graduates 13. The school budget in 1920 amounted to 600,895 pesos, of which 539,503 pesos were expended.

MEXICO.

OBSERVATORY FOR NAVAL CADETS.—The department of war and navy has given permission for the installation of an observatory to be used by the students of the Naval Academy for the necessary practice in the course.

REESTABLISHMENT OF THE DEPARTMENT OF PUBLIC INSTRUCTION.—The senate has voted unanimously to reestablish the department of public instruction. The importance of popular education is recognized by the senate.

PRIVATE SCHOOLS.—There are 739 private schools now in the federal district in accord with the plans of the national university to do away with illiteracy. In small towns the principal families have given several hours a day without remuneration to teaching children and workmen. Schools of this kind are often held in the houses of the workmen themselves. There are lectures and concerts for workmen included in the plans of the national university.

GRANGE SCHOOL TO BE OPENED IN CHIAPAS.—The governor of Chiapas states that a farm or grange school to develop agriculture is to be opened in that State, which contains virgin forests rich in such woods as mahogany and cedar. Roads are to be opened up through the State to aid its commercial growth.

WISER CHOICE OF MATERIAL FOR PRIMARY TEXTBOOKS.—A better selection is to be made in the material, both verse and prose, for the textbooks in reading and history in the schools of the federal district. At present many of the themes are entirely inappropriate to the child mind. It is also planned, in order to cultivate friendly feeling for other nations, to eradicate from the history texts and historical stories all disparaging phrases and expressions which tend directly to inculcate hatred and antagonism.

NUMBER OF SCHOOL CHILDREN IN THE FEDERAL DISTRICT.—In the federal district of Mexico there are 59,209 school children in the primary schools, of whom 29,084 are boys and 30,125 are girls.

NICARAGUA.

PUBLIC INSTRUCTION.—In Nicaragua primary public instruction is free and obligatory. The Government is constantly establishing new schools and gives particular attention to the needs of the rural

districts where illiteracy is greatest. New primary schools were recently opened in the Provinces of Matagalpa and Jinotega. At the present time there are 36 students of both sexes studying at the expense of the Government in Europe and the United States. The North American expert who was engaged by the Government to study and report upon education in Nicaragua has finished his work and has submitted recommendations to the department of public instruction looking toward the betterment of the educational system of the country in all branches of its activities. In 1920 there were 64 new schools established by the Nicaraguan Government, among which 48 were mixed and 2 for artisans and laborers. At the present time the State provides 521 free scholarships in its school of higher instruction.

PANAMA.

SEVENTH DAY ADVENTIST SCHOOL.—The Seventh Day Adventists recently obtained permission to use nine buildings at Las Cascadas in the Canal Zone for a school covering 12 grades of academic work. The school is intended especially for natives, but any eligible person of either sex, not under 16 years of age, who is prepared for fifth-grade work, will be enrolled. All pupils are required to work two hours a day in part payment of necessary expenses, such as room, board, etc. Work in excess of the two hours referred to will be paid for. The school opened on April 5, 1921.

PERU.

COMPULSORY EDUCATION LAW IN PERU.—A compulsory education law has been passed in Peru. The law makes instruction obligatory for boys and girls between the ages of 6 and 14 years. Parents and guardians are obliged to prove that minor children in their charge have received the instruction proper to their ages in authorized public or private schools. Government schools will give free instruction, including the necessary books, etc.

AMERICAN EDUCATIONAL COMMISSION.—An American educational mission has arrived in Peru to undertake some of the work in connection with the new organic law of education. The chief of the mission is Dr. Harry Erwin Bard, who organized the school system of the Philippine Islands in 1905, and later went to Peru as expert consultant to the ministry of education from 1909 to 1913. He served as secretary of the reform commission on the law of education in 1910, and has recently been recalled from the United States to aid in putting into execution the new education law. He has engaged 24 American teachers to aid him in the work of the projected reforms. They are graduates of some of the best-known colleges and universities of the United States and have had experience in foreign countries.

NATIONAL CONGRESS OF STUDENTS AT THE CENTENARY.—The subcommittees of the national congress of students have met to

discuss what themes are to be chosen for debates to be held with delegates from other American countries during the centenary celebration.

SALVADOR.

SCHOOL OF EMBROIDERY.—A national school of embroidery was opened in San Salvador in March last.

URUGUAY.

WOMEN GRADUATE PHARMACISTS.—El Día publishes a notice and the photograph of four women graduates of the pharmaceutical course who are now ready to be incorporated in the body of national pharmacists.

INDUSTRIAL EDUCATION.—The Superior Council of Education, desiring to increase industrial education, has published a circular for parents directing their attention to the work it is doing in the School of Civic Industries. The courses include building, masonry, draftsmanship, plastering, house painting, professional drafting, and a course for engineer's assistant. The course covers three years and is open to men and women alike.

LIBRARY FOR SUPERIOR SCHOOL OF COMMERCE.—A meeting was held by the directors of the Superior School of Commerce to consider founding a library for the school. An advance subscription of 400 pesos was taken for the purpose.

LABORATORY THESIS CONTEST.—The papers to be submitted in the Alejandro Gallini laboratory contest must be handed in by December 31, 1921, and may be upon any subject in the field of medicine or related thereto. Contestants must be Uruguayans who hold a professional degree either from Uruguayan institutions or those recognized there, or students of the school of medicine of Montevideo. There will be a prize of 3,000 pesos, and the school of medicine will print the prize-winning thesis, presenting to the prize winner the first 100 copies.

NATIONAL CONTEST IN THE HISTORY OF MEDICINE.—This contest also closes on December 31, 1921, the subject being the "History of Primitive Medicine in Uruguay." The conditions for contestants as to nationality, qualifications, and titles are the same as for the laboratory test contest. The prize will be 800 pesos, and 300 copies of the work will be printed and presented to the prize winner.

PROPOSED SCHOLARSHIPS IN THE MEDICAL SCHOOL.—The faculty of the school of medicine has approved the recently proposed plans for scholarships. These scholarships are to be awarded in April of each year to students who have obtained their degree or a certificate showing they have completed the course. The directive council will make the awards by a majority vote. Students who are not successful in the scholarship contest will not be eligible for a later contest.

GENERAL NOTES

ARGENTINA.

PROGRESS OF AVIATION IN ARGENTINA.—The military school of aviation at El Palomar has been informed of the shipment of 15 S. V. A. motor S. P. A. 220 horse-power Italian planes and 20 Avro planes of the type now being used in the school. The S. V. A. planes will be used in the last part of the program of the new course offered by the school, and the Avro planes in the first. A number of other makes of planes are ordered.

VACATION COLONY FOR WEAK CHILDREN.—The vacation colony for weak children closed its season with appropriate exercises. During its open term of three months it has aided some 3,000 children. At the closing celebration 1,000 children were present who were registered for one month's vacation.

NEW UNITS IN THE ARMY.—Two decrees have been issued creating new units in the army, namely, the second group of cavalry artillery and an arsenal battalion. The period of instruction, armament, and equipment will be equal to that in the infantry branch of the service.

NORDENSKJOLD IS RECEIVED BY THE PRESIDENT.—The well-known explorer, Prof. Erland Nordenskjold, was received by the President of Argentina. The professor related some of his experiences in his perilous expedition through the cordillera of the Andes from Peru to the Straits of Magellan, and expressed his thanks to the Argentine Government for assistance in facilitating his work. Prof. Nordenskjold left for Sweden soon after.

AUTOMOBILE TOUR FROM BUENOS AIRES TO SANTIAGO DE CHILE.—The Argentine Automobile Club has undertaken the management from the Argentine end of an automobile tour from Buenos Aires to Santiago de Chile, while the automobile club of Chile is cooperating at the other end of the route. The automobiles left Buenos Aires to cross the Andes at the same time cars from Santiago set out to perform the same feat on the way to Buenos Aires. This is another method of crossing the Andes, which have already been crossed by aviators of both nations.

NOTABLE EVENT IN AVIATION.—Mlle. Bolland, a young French aviatrix of 22, crossed the Andes in four hours on April 1, in an 80 horsepower plane.

BOLIVIA.

PRESS ASSOCIATION.—A Bolivian press association entitled "Círculo de la Prensa" (Press Circle) was recently founded in La Paz by

the directors of the following publications: *Atlántida*, *La Razón*, *La Ilustración*, *El Tiempo*, and *La Acción Social*. The object of the organization is to encourage the development of the newspapers of the country along higher planes of usefulness and culture, to extend moral aid and sympathy to persons engaged in the newspaper business, and to provide a tribunal of honor for the settlement of personal disputes, consisting of members of the board of directors of the organization and two persons chosen by them. The officers of the association are Eduardo Medina, president; Humberto Muñoz Cornejo, treasurer; and Octavio Límpias, secretary.

COCHABAMA TO SANTA CRUZ RAILWAY.—The Bolivian press is advocating the prompt construction of the Cochabamba to Santa Cruz Railway as a means for the development of the eastern slopes of the Andes, and for the purpose of stimulating trade with Brazil. The territories of Santa Cruz, Beni, and Chuquisaca are exceedingly fertile and have immense stretches of grazing lands awaiting development. The State of Matto Grosso, Brazil, adjoining the Bolivian frontier, is a large producer of cereals, and these and other products of that State could after the completion of the railway referred to be imported into Bolivia in exchange for Bolivian merchandise and raw materials. The political necessity for the construction of this road, according to editorials in the leading Bolivian papers, is very great, inasmuch as communication from the capital with that part of the Republic is now irregular and difficult. The Bolivian press is calling the attention of the Government to the advisability of taking such measures as may be deemed proper for the extension and early completion of the Cochabamba to Santa Cruz Railway.

BRAZIL.

PRESIDENTIAL ELECTION DATE.—The Brazilian Congress has enacted a law fixing March 1 of the last year of each presidential period for the election of President and Vice President of the Republic. The same law prescribes that the house of deputies shall consist of 212 members.

EMBASSY IN BELGIUM.—A decree raising the Brazilian legation in Brussels to an embassy was signed by President Pessoa, the decree announcing the appointment of A. de Barros Moreira, the present minister, as ambassador.

PROPOSED INTERNATIONAL DRAMATIC CONGRESS.—The Brazilian Society of Dramatic Authors, under the presidency of Dr. Pinto da Rocha of Rio de Janeiro, has taken preliminary steps toward the holding of an international dramatic congress in the federal capital in 1922 in connection with the celebration of the centenary of independence of Brazil.

HISTORICAL INSTITUTE OF BAHIA.—The Historical Institute of Bahia proposes to erect a building in the city of Bahia to be used as a

repository for the collection of books, papers, and files relating to the history of Brazil from the earliest times to the present day. The building, which will be a work of art, is to be inaugurated during the centennial celebration.

BAPTIST CONVENTION.—A convention of Baptists, representing the 14 churches of the federal district and a membership of 1,750, was held in Rio de Janeiro from January 19 to 24, 1921.

ART EXHIBIT.—In January last an exhibit of retrospective art, and especially of art referring to the time of Dom Pedro II, was held in the federal capital, in memory of the rulers of the Empire.

HISTORICAL DOCUMENT.—Conde d'Eu has presented to the Brazilian Historical and Geographic Institute a diary containing detailed information relating to incidents of the Brazilian-Paraguayan war.

CHILE.

NEW STEAMER SERVICE.—The Compañía Inglesa de Vapores has established a new steamer service between Punta Arenas and Arica. The first trip was made by the *Arzila* in January. J. R. Williams & Co., of Buenos Aires, have also announced the establishment of a line of freight steamers between the ports of Chile, Peru, and Argentina.

COLOMBIA.

OPENING OF THE BRIDGE OVER RIO PALACE.—In Popayan the Carlos Alban bridge was opened for public use on the Popayan Rosario Road. Representatives of the governments of the corregimientos (districts) of Rosario and Santa Rosa were present.

COLOMBIA RATIFIES THE MADRID POSTAL CONVENTION.—The President of Colombia has issued a decree ratifying in its entirety the postal convention of Madrid, and the measures and provisions of this convention will go into effect in Colombia on May 15, 1921.

SANITATION OF PUERTO COLOMBIA.—The governor has conferred with the sanitation committee in reference to the sewer system of Puerto Colombia.

PUBLIC WORKS IN THE DEPARTMENT OF TOLIMA.—Among the public works which the department of Tolima is undertaking are the high roads of Salado, 11 kilometers and 360 meters long, to be extended 32 kilometers to the municipality of Caldas; repairs to the Rio Picaleña road and entrances to the city and the present railroad station; construction of the road to Rio Combeima to the Ame bridge and 200 meters beyond; the completion of the Arrancaplumas-Caracoli road with funds furnished at the instance of the governor by the Federal Government. Bridges: Rio Prado bridge, municipality of Prado; Rio Luisa bridge, municipality of Guamo; Rio Luisa bridge, municipality of San Luis; bridge over the Inali, municipality of Carman; bridges over the Rio China

and Rio Totare between the municipalities of Caldas and Venadillo; bridge over Rio Juan Lopez in the municipality of Ieonozo; bridge over Rio Guali between the municipalities of Santana and Fresno; bridge over the Rio Totare between the municipalities of Briceño and Santa Isabel; bridge over the Rio Alvarado, municipality of Caldas; bridge over the Rio Azufrado between the municipality of Villahermosa and Santana; bridge over the ravine, El Lavadero-Ibagüe; bridge over the ravine of Los Angeles between Dolores and Alpujarra; and the bridge over the ravine of Ata between Prado and Dolores.

COSTA RICA.

AVIATION CLUB.—An aviation club has been organized in San José, one of the principal objects of which is to train native aviation pilots.

CENTENARY CELEBRATION.—The following statues are to be unveiled in connection with the centenary celebration on September 15 next: To Juan Mora Fernández, first President and founder of the Republic; to Monseñor Bernardo Augusto Thiel, religious patriot and friend and advocate of the Indians; and to Manuel María Gutierrez, author of the national anthem of Costa Rica. The first two will be unveiled in the capital of the Republic and the third in the city of Heredia.

STANDARD TIME.—On March 1 of the present year the Costa Rican Government adopted the ninetieth meridian west of Greenwich as the basis of the standard time of the Republic.

CUBA.

CHINESE IMMIGRANTS.—The Russian steamer *Ponza* arrived from Hongkong with 700 Chinese immigrants for labor in the sugar plantations.

MODIFICATIONS OF THE TAX REGULATIONS ON MINES.—On March 18 the President issued a decree modifying the existing laws governing the taxes on minerals and mines. The fee paid to the treasury yearly on mining concessions will be 20 centavos per hectare, and mining property must pay a tax of 6 per cent of its profits.

LAND FOR THE BUILDING OF A HIGHWAY.—The Government has authorized the payment of \$56,608 to acquire land for the building of the highway from Palmira to Manacas, and through Palmira to Cuatro Caminos.

NEW STEAMSHIP LINE BETWEEN CUBA AND HONOLULU.—The Cuban consul in Honolulu has informed the state department that the Matson Navigation Co. in March established a line of freight and passenger steamer service from Baltimore to Honolulu, with stops at Habana, New York, San Francisco, San Pedro, and Los Angeles. The first steamer left Baltimore on March 14.

BRITISH CRUISER CONSTANCE.—The British cruiser *Constance* arrived in the port of Habana March 26 for a week's stay on its way to the port of New York. After the port formalities were over the commanders of the American warship *Minnesota* and of the cruiser *Cuba*, anchored in the bay, paid visits of ceremony to the captain of the British man-of-war.

BUILDING OF DOCKS AND STOREHOUSES.—In accordance with article 63 of the sanitary ordinances the department of sanitation and beneficence will make improvements in the docks and storehouses of all the ports in the Republic as a protective measure against the increase of rats and as a preventive of bubonic plague.

ENTRANCE INTO HOSPITAL FREYRE DE ANDRADE.—The mayor of Habana is considering the draft of a decree regulating the entrance qualifications and treatment in the Hospital Freyre de Andrade. The new decree authorizes the free admission and treatment of all needy persons requiring medical assistance from a hospital.

AQUEDUCT OF ORIENTE.—The president has authorized the expenditure of \$100,000 monthly for the building of the Oriente aqueduct, for which \$2,000,000 was appropriated. This aqueduct is to supply the town of Santiago de Cuba.

NEW AIR LINE FROM MIAMI TO HABANA.—The West Indies Aeromarine Airways Co. has started a hydroplane service from Miami, Fla., to Habana. The hydroplane to make the first trip in this service was the *Balboa*, carrying 10 passengers and mails.

AUTHORIZATION OF ALL AMERICA CABLES CO. TO EXCHANGE WITH GOVERNMENT LINES.—International messages to be transmitted over the lines of the All America Cables Co. will be transmitted under the following conditions: (1) The company is to install one or more telegraph lines in Santiago de Cuba between its office and the Government station; (2) international messages to be transmitted over the All America lines will conform to the Cuban Government rate of 4 cents a word. The charge, whether collected on messages presented at Government or All America Cable offices, will include the Government and company tolls, the Government and company acting each for the other; (3) accounts between the Government and the company are to be settled monthly.

DOMINICAN REPUBLIC.

VISIT OF SECRETARY OF THE NAVY DENBY.—Secretary Denby visited the Dominican Republic, where he was accorded the honors of his office.

NEW VESSEL FOR PASSENGER AND FREIGHT SERVICE.—The *Romanita* owned by the Central Romana, is a well-equipped modern vessel built in Halifax for passenger and freight service between the ports of Santo Domingo, Macoris, and La Romana.

ECUADOR.

AVIATION.—The Registro Oficial publishes a decree providing for the organization of the aviation service which is to be included in the branch of military engineering. The expenditures connected with the service, amounting to 20,000 sucres, will be met jointly by the war and navy budget.

REGISTRATION FOR MILITARY SERVICE.—A presidential decree has been issued providing for the military registration of all Ecuadorean citizens between the ages of 18 and 50 years. Exemption cases are provided for and persons not exempt who fail to register will lose all civil rights and become liable to imprisonment from 100 to 365 days, or a fine of 200 sucres.

NEW REVISION OF THE LAW OF MILITARY PENSIONS.—A presidential decree provides that the ministry of war and navy undertake the revision of the law covering military widows' and orphans' pensions.

STUDENTS' BATALLION.—The Federation of Students has signed a petition to the minister of war asking permission to form a university batallion in accordance with the provisions of the law, to be quartered in the school, like the cadets of the military academy, where they will pursue their civil and military studies at the same time.

COMPAÑÍA NACIONAL DE TRANVÍAS.—Work has been begun on the lines of the street car system.

PUBLIC WORKS IN HONOR OF CENTENARY.—Some of the public works to be undertaken in honor of the centenary celebration are: Widening of the Calle Antonio Ante; completion of the sewer system of Ciudadela Larrea; prolongation of Calle Arena; juncture of the Checa road with the Sodiro road; sewerage and paving of Vargas Avenue, etc.

CONFERENCE FOR COMMERCIAL RELATIONS BETWEEN CHILE AND ECUADOR.—A conference was held in Santiago, Chile, to promote closer commercial relations between the countries of Chile and Ecuador. The meeting was attended by President Alessandri of Chile, the minister of Ecuador, Dr. Carrera, and the Ecuadorean consul general.

PROPAGANDA MAGAZINE.—A magazine to be known as The Republic of Ecuador is to be published in New York for propaganda purposes. Material for this publication will be furnished by the Ecuadorean foreign ministry and foreign consuls, the various Government ministries, universities, and schools. The magazine will be under the charge of the Ecuadorean legation in Washington.

DECREE COVERING INVENTIONS.—A decree has been issued insuring to the inventor the rights of his invention, improved process methods, and the rights of the State to purchase the patent rights.

DECREE FIXING THE OFFICIAL TIME.—The meridian of Quito has been adopted as the official time, which will be announced daily by the director of the astronomical observatory and transmitted by the telegraph office of the capital to all the other offices.

GUATEMALA.

CENTENARY CELEBRATION.—Under a convention signed in the city of San Jose, Costa Rica, in December, 1920, the five Central American Republics will jointly celebrate in the city of Guatemala on September 15, 1921, the first centenary of the political independence of Central America. The Government of Guatemala is authorized to prepare the program.

FIREARMS.—The President of the Republic has issued a decree prohibiting the carrying of firearms in the city of Guatemala and in the capitals of the Departments. Persons in actual military service, the police, public officials, all travelers (provided the latter have permits from their home authorities), are excepted from the provisions of this decree.

POSTAGE STAMPS.—The Guatemalan Government has placed an order in England for 10,000,000 postage stamps of denominations varying from 2 centavos to 15 pesos.

HONDURAS.

POPULATION.—The population of the Republic of Honduras at the beginning of 1921, according to figures compiled by the Bureau of Statistics of the Honduran Government, was 637,114 inhabitants, 314,258 of whom were males and 322,846 females. In 1920 the births numbered 17,435, of which 9,038 were males and 8,397 females. The deaths during this period were 11,531, of which 5,953 were males and 5,578 were females. In 1920 the excess of births over deaths was 5,904.

PRESIDENT'S PALACE.—The President's palace, the erection of which was begun on August 3, 1916, has cost up to the present time 312,773 pesos. With the exception of the ornamental work and paving, the construction of the building is now complete.

MAIL.—The number of pieces of mail handled in 1920 was 4,337,917. Preliminary steps have been taken by the Government to establish an airplane mail service to serve the interior of the Republic.

TELEGRAPH AND TELEPHONE SERVICE.—In 1920 the number of persons employed in the telegraph and telephone service of Honduras was 1,126. There are in operation 7,460 kilometers of telegraph line with 277 offices, and 1,405 kilometers of telephone line with 664 offices.

RAILROADS.—On July 31, 1920, the Trujillo Railroad Co. had 119 kilometers of line in operation, 86 of which belonged to the main line, 14 to the Trujillo branch, and 19 to the Aguan branch. This road uses petroleum as fuel. The number of passengers carried in 1920 was 25,000. On the date referred to the Tela Railroad Co. had 245 kilometers of line under exploitation, 99 of which belonged to the main line and 146 to the branch lines. In 1920 this road carried

41,187 passengers and 5,000 tons of freight. The Yoro Railway has been constructed for a distance of 10 miles, and is expected to reach Salitran during the present year. In 1920 this road carried 178,654 passengers and transported 3,139,090 kilos of freight. This company employed last year 3,072 persons. In 1920 the Cuyamel Fruit Co. did not extend its principal line, but there were 20 kilometers of tramway built. This company employs about 2,000 persons. The branch road from Mata de Guinco, which starts near Baracoa, has been built to Guelequete on the banks of the Uluá River, a distance of 15 kilometers. Grading, however, has been extended to a distance of 33 kilometers. Congress has appropriated 1,000,000 gold for the repair, construction, and extension of the National Railway from Baracoa to Potrerillos and for the purchase of equipment necessary to its operation. This line is under the management of the agricultural company of Sula. The value of the road, according to an appraisal made by the Government, is 3,393,582 pesos. This railway received during the past economic year 463,331 pesos, and expended 459,686 pesos. An average of 2,500 workmen and other persons are employed by the road.

MEXICO.

AVIATION IN MEXICO.—Aviation in Mexico is to be advanced by the building of 50 airplanes in the shops of Valbuena, the Government owning sufficient motors. When a sufficient number of airplanes have been built or acquired air mail service will be started between Mexico and Vera Cruz, Vera Cruz and Tampico, Guadalajara and Mazatlan, Hermosillo and Chihuahua, and Mexico and Acapulco.

MEXICO TO SEND DELEGATES TO INTERNATIONAL CHILD WELFARE CONGRESS.—The President has authorized the health department to direct the permanent committee of child welfare in Mexico to choose delegates to attend the convention of child welfare in Brussels, to be held from July 18 to 21.

ORGANIZATION OF MACHINE GUN CORPS.—The *Diario Oficial* of March 16 announced the organization of the machine gun corps of the Mexican army. It is to be composed of two groups, each group containing three companies of three sections each. Press reports state that the Mexican Army is to have 50,000 men as a peace footing. Desirable volunteers who are illiterate will be taught in special schools in army headquarters.

EXPOSITION OF THE DEPARTMENT OF ANTHROPOLOGY.—On March 15 the directorate of anthropology opened an exposition in the halls of the agricultural school of San Jacinto, featuring life in the Valle de Teotihuacan in the pre-Spanish, colonial, and present periods. The exhibits include ritual vessels, household utensils, statuettes, personal ornaments such as necklaces of jade and obsidian, earrings, masks, mortars, arrows, war trumpets, and obsidian razors from the pre-

Spanish period. Among the Indian exhibits were hats, huipiles, toys, ceramics, laces, and drawnwork.

LARGEST NUMBER OF IMMIGRANTS BROUGHT ON HOLLANDIA.—The steamer *Hollandia* arrived on March 12 with the largest number of immigrants ever brought to the port of Vera Cruz. There were 97 Russians, 66 Ukrainians, 27 Germans, and 27 Spaniards. Many immigrants have arrived with insufficient funds.

REDUCTION OF IMPORT AND EXPORT TAXES IN LOWER CALIFORNIA.—Taxes are to be reduced on imports and exports of stock and cereals in order that the towns of the northern district of Lower California may compete with their American neighbors.

NICARAGUA.

PACIFIC RAILROAD CO.—His Excellency Octaviano Cesar, minister of Nicaragua in Washington, has been appointed to represent the Nicaraguan Government on the board of directors of the Pacific Railroad Co., which has its headquarters in New York.

PANAMA.

LABOR CONFERENCE.—The labor conference which met in Panama City on March 20 last with an attendance of 40 delegates recommended the development of agriculture and the exploitation of the fine timber lands of the Republic. Luis Alejandro Victor was re-elected president of the labor organization for the ensuing year.

NEW BUILDINGS.—The All America Cable Co. is erecting a new reinforced concrete building, two stories high, in Cristobal. When the structure, which is 94 feet long and 48 feet wide, is completed, the first story will be used for offices and the second for living quarters for employees of the company. The location is excellent and will enable the cable company to serve advantageously the shipping companies doing business in Colon, as well as the vessels passing through the Canal. A number of buildings, principally dwellings and churches, are being erected in the eastern part of Colon on a reclaimed tract of 58 acres. In this same section the reinforced concrete building of the Union Church, estimated to cost \$60,000, the Catholic Church building, the approximate cost of which will be \$50,000, and the Young Women's Christian Association building, the probable cost of which will be \$18,000, are being erected. The materials for these buildings, as well as the furnishings, are nearly all imported from the United States.

PARAGUAY.

WORKMEN'S HOUSES.—The union of commercial employees of the city of Asuncion has formulated plans for the erection of hygienic houses for Paraguayan workmen. In addition to the money already on hand available for this purpose, the union proposes to use the proceeds of an issue of bonds to further the undertaking.

PERU.

MONUMENT TO DON NICOLAS DE PIÉROLA.—Law 4222 provides for the erection of a monument to Don Nicolas de Piérola and funds for the celebration of the centenary. There was a contest of sculptors for the award of the work. Don Nicolas de Piérola was born in Camana in 1839. His first work was as director of *El Tiempo*, of Lima. He was next appointed minister of hacienda. His term as president ended in 1899. He was one of the most brilliant of Peruvian statesmen.

TWO NEW DISTRICTS FORMED.—Law 4207 creates in the Province of Castrovirreyna the two new districts of Tambo and Tantara.

NEW MINISTER FROM URUGUAY.—Señor Rafael Fosalba, the new Uruguayan minister to Peru, was received by the President of Peru and accorded the courtesies due his rank.

CHINESE MINISTER TO BRAZIL AND PERU.—Dr. Shia Ji Ding, the new Chinese minister to Brazil and Peru, on his journey through Argentina gave an interview to one of the papers, in which he stated that he hoped commerce would be developed between South America and China by means of direct shipping lines. He said that China was in need of the food supplies South America produces, and that the Chinese were able to sell much that might be used in South America.

WIRELESS STATION AT ILO.—A wireless station has been set up and is now in operation at Ilo, the most southern port of the southern coast. Ilo is an olive-raising district.

UNITED STATES FLEET AT LIMA.—The United States Fleet, under Admiral Wilson, visited Lima, where the officers and sailors were entertained most hospitably by the officials and citizens of the Peruvian capital. The President of the Republic visited the fleet, accompanied by the minister of foreign affairs and the minister of the navy. A luncheon was given by the latter to Admiral Wilson, and a bull fight was held in honor of the American sailors.

GIFT FROM PERU TO BRAZIL.—The Republic of Peru has presented to the United States of Brazil a building suitable for the Brazilian legation, and Brazil has reciprocated with equal courtesy by offering to the Republic of Peru the gift of a building for the Peruvian legation in Brazil.

GIFTS OF THE FOREIGN COLONIES IN PERU FOR THE CENTENARY CELEBRATION.—The various foreign colonies in Peru will make gifts to the Peruvian Nation at the centenary celebration of its independence. France, which has two missions—one military and the other aviatory—in Peru will contribute a statue of liberty to be placed in the Plaza de Armas on the spot where Gen. José de San Martín proclaimed the independence of Peru. The Italian colony will

contribute a museum of fine arts, which will be one of the most complete in South America. It is to be located in the plaza of the exposition and will cover an area of 2,800 square meters. The German colony will contribute a 25-foot clock tower to be placed in the Parque Universitario. The Spanish colony will contribute an arch 30 meters high with three porticos to be placed at the entrance of the Avenida Wilson. Other foreign colonies contributing have not as yet made known their gifts.

SALVADOR.

DEATH OF EX-PRESIDENT GEN. RAFAEL ANTONIO GUTIÉRREZ.—The lamented death of ex-President Gen. Rafael Antonio Gutiérrez, occurred in the city of San Salvador on January 9, 1921. The deceased was President of the Republic from 1894 to 1898, and was universally beloved and respected. He became President of Salvador after the fall of the Ezeta Government, and his administration was noted for its probity and saneness in the handling of public affairs. He was buried on January 10 last with all the honors due to an ex-President of the Republic. An executive decree ordered three days of mourning, during which time the flag was flown at half-mast from the President's palace, and the civil and military employees of the Nation wore mourning badges.

NEW RAILWAYS.—In 1920 the Salvadorian Government contracted with the International Railways of Central America for the construction of the following lines, all of which are to be completed not later than February 15, 1923: From Santa Cruz Michapa to San Salvador; from Santa Lucia to Ahuachapan, and from Santa Lucia to the Guatemalan frontier, via Metapan. A contract has also been made for the erection of a permanent bridge over the Lempa River.

HOSPITALS.—The Salvadorian Government at present maintains 18 hospitals, 5 orphans' homes, 5 asylums, and 1 insane asylum. The orphans' homes admit not only children whose parents are dead or unknown, but also those whose parents are considered unfit to care for their offspring.

URUGUAY.

UNDERGROUND TELEPHONE.—A bid has been made by the Western Electric Co. to install an underground telephone system in Montevideo.

RAILROAD FROM MONTEVIDEO TO EMPALME OLMOS.—A meeting was held in the building of the ministry of public works to consider plans for the building of a railroad from Montevideo to Empalme Olmos, which is a much needed line of communication.

ARRIVAL OF ARGENTINE MINISTER TO URUGUAY.—The Argentine minister to Uruguay, Dr. H. Pueyrredón, was received in Montevideo

with much enthusiasm. Dr. Pueyrredón, soon after receiving his degree, was appointed professor in the law school and later elected to the university council. In 1916 he was appointed minister of agriculture and, later, minister of foreign affairs, holding both offices until 1919, when he was relieved of the agricultural ministry. His Government sent him as Argentine delegate to the Conference of Maritime Law in Venice, and in 1917 to Chile to represent his country at the hundredth anniversary of the battle of Maipú. He has published a volume of his lectures on civil procedure.

AUTOMOBILE TOUR FROM MONTEVIDEO TO PUNTA DEL ESTE.—The automobile club was well satisfied with the result of the Montevideo-Punta del Este tour, which took place over roads wet with rain. There were 32 cars registered for the tour, but only 27 present at the start. In the touring-car class first place was won by the Hupmobile, covering a distance of 93 $\frac{3}{4}$ miles in 2 hours 51 minutes and one-fifth second, with the Franklin second in 3 hours and 5 minutes. The race was won by a Franklin car in 2 hours 22 minutes and three-fifths second. The prize was 1,000 pesos and, in addition, a commemorative plaque.

VENEZUELA.

POPULATION PRINCIPAL CITIES.—According to the national census of 1920 the population of the city of Caracas is 92,212; of La Guaira, 7,334; and of Maiquetia, 8,637. The population of the federal district is 130,132; of the department of Libertador, 110,421; of the department of Vargas, 29,711; of the federal Amazonas territory, 48,940; and of the federal territory Delta-Amacuro, 13,474.

COMMERCIAL MUSEUM.—Under an executive decree of January 15, 1921, a commercial museum was established in Caracas under the supervision of the bureau of commerce of the foreign office of the Venezuelan Government. The curator of this museum is an American who was formerly in charge of the Venezuelan agriculture experiment station, and who for a number of years was the technical advisor of the Venezuelan Bureau of Commerce. Show cases and metallic stands are to be installed, and the museum will be reorganized along the most modern lines.

RAILWAYS.—The seventeen railways of Venezuela have a total length of 1,039 kilometers, and represent an investment of 200,948,125 bolivares (bolivar = \$.193). Of this sum 89,486,500 bolivares is English capital, 79,000,000 bolivares German capital, 19,200,000 bolivares Venezuelan private capital, 9,261,625 Venezuelan national capital, and 4,000,000 French capital. The average return in 1919 on the capital invested was 5.1 per cent.

WIRELESS.—A new wireless station is now being erected at Maraibo in accordance with an executive decree of June 18, 1920. This

station is to have a power of 5 kilowatts, a radius of 500 miles during the day and of 1,500 miles during the night. The towers are to be 50 meters high. The station will be in direct communication with the Arlington station in the United States and with the station at Colon, Panama. The station at Maracay, also erected under the decree referred to, was completed in December, and a third station is soon to be installed at San Cristobal. Wireless installations are also to be made as soon as possible at Puerto Cabello, Coro, La Guaira, and Ciudad Bolivar, and the radius of the wireless station at Caracas is to be greatly increased.

SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED TO APRIL 12, 1921.

Subject.	Date.	Author.
ARGENTINA.		
Official estimate of the yield of 1920-21 harvest.....	1921 Jan. 15	W. Henry Robertson, consul general at Buenos Aires.
Annual report of local American Chamber of Commerce for the year 1920.	Feb. 1	Do.
Destination of Argentina's principal exports from Jan. 1, to Jan. 31, 1921.	Feb. 15	Do.
Cereals available for export	Apr. 4	Do.
BOLIVIA.		
Incorporation and corporation taxes in Bolivia.....	Jan. 26	W. Duval Brown, consul at La Paz.
Contract signed for construction and financing the La Quiaca-Atocha Railway.	Mar. 6	Do.
BRAZIL.		
Increase in domestic postage rates in Brazil.....	Jan. 21	C. R. Cameron, consul at Pernambuco.
The market for optical goods in Pernambuco.....	Jan. 31	Do.
Revision of the Brazilian Lloyd Steamship Lines.....	Feb. 4	Do.
Report on the city of Pernambuco.....	Feb. 7	Do.
Construction of new warehouse in Pernambuco.....	Feb. 12	Thos. H. Bevan, consul at Bahia.
Market for carousals, scenic railways, etc.....	Feb. 17	A. T. Haeberle, consul general in charge, Rio de Janeiro.
Information of interest to manufacturers of motor vehicles.....	Feb. 18	C. R. Cameron.
CHILE.		
The currency system of Chile.....	Feb. 3	C. F. Deichman, consul general at Valparaiso.
Market for scientific apparatus and laboratory supplies.....	Feb. 25	Do.
Bolivian commerce through the port of Arica for 1920.....	Feb. 28	Homer Brett, consul at Arica.
Market for paints and varnishes in Tacna.....	Mar. 4	Do.
COLOMBIA.		
Report on commerce and industries for January, 1921.....	Feb. 25	Edmund B. Montgomery, vice consul at Barranquill.
Incorporation and corporation taxes in Colombia.....	Mar. 5	Do.
COSTA RICA.		
Market for musical instruments in Port Limon.....	Feb. 26	Stewart E. McMillin, consul at Port Limon.

Reports received to April 12, 1912—Continued.

Subject.	Date.	Author.
CUBA.		
	1921.	
Gold mining in the Isle of Pines.....	Jan. 21	Charles Forman, consul at Nueva Gerona.
Shipments of vegetables and grapefruit.....	Mar. 3	Do.
Cuban imports and exports of chemicals.....	Mar. 15	Carlton Baily Hurst, consul general at Habana.
Cuban imports and exports of iron and steel products.....	do.	Do.
Normal conditions exist in Habana harbor.....	Mar. 30	Do.
ECUADOR.		
Ecuador a growing market for tractors.....	Feb. 2	Frederic W. Goding, consul general at Guayaquil.
Dental courses in Ecuador.....	Feb. 14	Do.
Report on commerce and industries for January.....	do.	Do.
Official exchange rate on New York as from Mar. 16.....	Mar. 13	Do.
HONDURAS.		
The market for paints and varnishes.....	Mar. 3	G. K. Donald, consul at Tegueigalpa.
Market for musical instruments.....	Mar. 7	Do.
No extension work is being done in Honduras and no agricultural societies or schools in the country.	Mar. 9	Do.
MEXICO.		
The market for musical instruments.....	Mar. 1	Thomas D. Bowman, consul at Monterey.
Extensive work in agriculture and home economics not developed in Mexico.	do.	Cornelius Ferris, jr., consul in charge in Mexico City.
Regulations governing the importation of live stock from the United States.	Mar. 11	Do.
Market for paints and varnishes.....	Mar. 19	C. H. Donaldson, consul at Torreon.
Possible market for surplus American corn.....	do.	J. B. Stewart, consul at Chihuahua.
NICARAGUA.		
Monthly report on commerce and industries for consular district for January, 1921.	Feb. 26	Henry S. Waterman, consul at Corinto.
PANAMA.		
The market for spark plugs.....	Feb. 25	George Orr, consul at Panama City.
PARAGUAY.		
Paraguay protects foreign trade marks.....	Jan. 29	George E. Seltzer, vice consul at Asuncion.
Immigration into Paraguay in 1920.....	do.	Do.
Vital statistics of Paraguay for second half of 1920.....	Feb. 3	Do.
Nationality and tonnage of vessels entering and clearing from port of Asuncion during second half of 1920.....	do.	Do.
Importation of articles of consumption into Paraguay.....	Feb. 4	Do.
Chief products exported from Paraguay.....	do.	Do.
Monthly report on commerce and industries for December.....	Feb. 5	Do.
Commerce of Paraguay for 1920.....	Feb. 10	Do.
Copy of law of concession for the construction of sewers in Asuncion.	Feb. 25	Do.
PERU.		
New Peruvian customs ruling.....	do.	James H. Roth, consul in charge, Lima and Callao.
Annual report on commerce and industries for 1919.....	Feb. 28	Do.
URUGUAY.		
Uruguay's budget for 1920-21.....	Jan. 4	David J. D. Myers, consul at Montevideo.
Uruguayan foreign trade for 1920.....	Feb. 24	Do.
VENEZUELA.		
First section of annual report on commerce and industries for 1919.	Feb. 17	Dudley G. Dwyre, consul at Maracaibo.
Market for musical instruments.....	Feb. 21	Do.
Coffee shipments from the port of Maracaibo, February, 1921.....	Mar. 3	Do.

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MAPS.

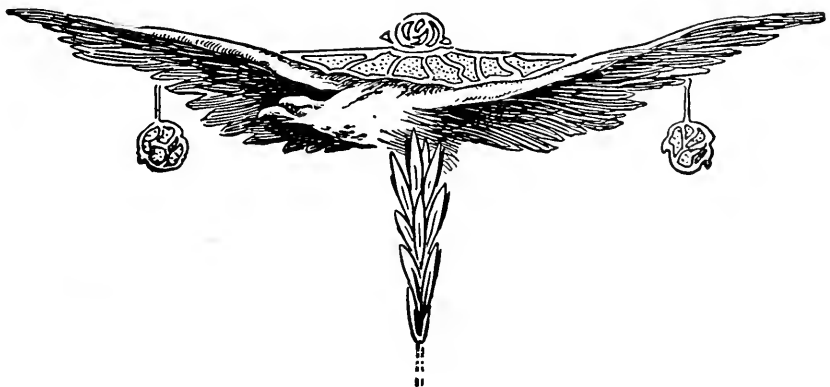
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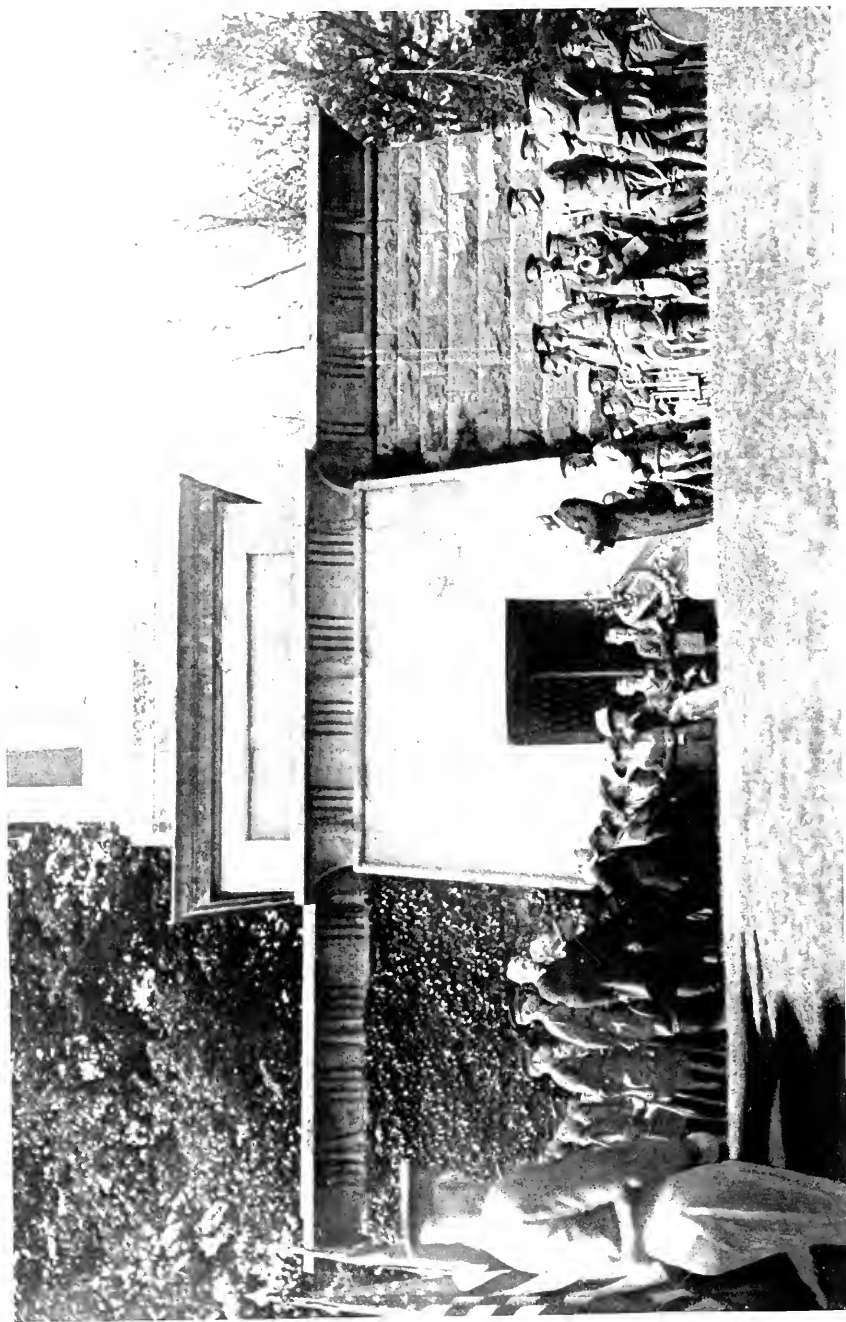




TABLE OF CONTENTS

	Page.
An Interesting Ceremony	541
Distribution of Population in Mexico	542
An Oil Entente	560
Tropical American Woods for Markets of United States	567
International Congress of American History	587
Recent Argentine Export Statistics	588
Peru and Its Oil Fields	590
Two Useful Tropical Trees	595
Agriculture, Industry, and Commerce	600
Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Paraguay, Peru, Salvador, Uruguay, Venezuela.	
Economic and Financial Affairs	617
Argentina, Brazil, Chile, Costa Rica, Cuba, Dominican Republic, Ecuador, Honduras, Mexico, Nicaragua, Panama, Peru, Salvador, Uruguay, Venezuela.	
Public Instruction and Education	623
Argentina, Bolivia, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Guatemala, Haiti, Mexico, Nicaragua, Paraguay, Salvador, Uruguay, Venezuela.	
Legislation	628
Chile, Guatemala, Paraguay, Peru.	
General Notes	629
Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Salvador, Uruguay, Venezuela.	
Subject Matter of Consular Reports	640
Book Notes	642

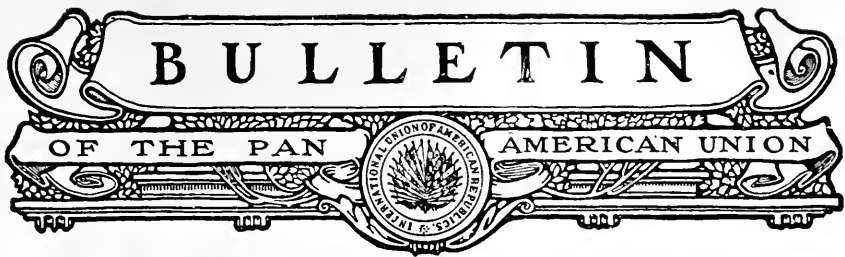




From Underwood & Underwood.

DR. BORGES HONORS THE MEMORY OF HENRY CLAY.

Dr. Esteban Gil-Borges, minister of foreign relations in Venezuela, who headed the special commission from Venezuela to this country for the unveiling of the Bolivar statue in New York, the gift of the Venezuelan Government to that city, recently visited Lexington, Ky., where he placed a wreath of bronze on the tomb of Henry Clay in tribute to the Kentucky statesman's championship of the Pan American cause.



VOL. LII

JUNE, 1921

No. 6

AN INTERESTING CEREMONY

ONE of the most interesting and *simpático* events connected with the recent Bolivar festivities took place April 26 in the Pan American Union, in the office of the Director General, when Dr. Gil Borges, the Venezuelan minister of foreign relations, in the name and stead of his Government, decorated Director General Rowe. Dr. Guillermo A. Sherwell, juriconsult of the United States section of the Interamerican High Commission, and Dr. C. E. McGuire, assistant secretary of the same commission, with the jewel and collar of the Order of Bolivar, and Assistant Director Yanes with the jewel and collar which mark his promotion from the first to the second class of the Order of the Liberator. Miss Helen L. Brainerd, secretary to the assistant director, was presented with the Venezuelan medal of public instruction in recognition of her services in the cause of Hispanic-American education.

This quietly intimate and impressive ceremony was witnessed by the members and ladies of the Venezuelan commission and the entire staff of the Pan American Union.

Dr. Gil Borges's remarks on this occasion were, in part, as follows:

My Government has instructed me to bestow these decorations upon Dr. Rowe, Dr. Sherwell, and Dr. McGuire as the highest expression of its appreciation of the eminently meritorious service which they have rendered her. My Government also desires that this decoration may be an enduring pledge of the sympathetic regard which my country entertains toward those who have so generously honored her in thought and deed.

This is a happy day for me—the day when my country in all justice honors the men who have consecrated their lives to the ideal of American brotherhood and, at the same time, acknowledges the nation's debt of gratitude. So it is with rejoicing in my heart that I place on your breast this jewel, which is the highest tribute of praise and appreciation my country can bestow.

In you nobleness of heart and the highest qualities of mind are combined. I see in Dr. Rowe the scholar who with serene brow envisages a world of ideas, in whom a spirit quick to understand and potent to create is united to that strength of will which transforms ideas into reality and thought into action. In Dr. Sherwell I see a richly-endowed nature, in which the light and warmth of the southern imagination go hand in hand with the sober reflection of the north; a mind which gathers the fruits of thought to spread them broadcast in a limpid and sonorous style which has the force of the English language and the polish of the Spanish—a style which gives his prose the serious note of the thinker and the musical note of the dreamer. In Dr. McGuire I see a mind clear and pure as the mountain pool amid the eternal snows; the dewy freshness of a life devoted to science with the mystic fervor of those elect souls who are consecrated to God.

My Government has instructed me also to bestow upon Dr. Francisco Javier Yanes the insignia of his promotion to the second class of the Order of the Liberator. This promotion rewards a long career of honorable service, and in him my country decorates the son who in his heart has cherished during long years of absence a loyalty of affection for the far-distant land of his birth and a reverent cult of her national glory. My country confers this signal honor on one who, by his integrity, has honored her, and whose intelligence has conferred upon her new luster. I therefore take great pleasure and satisfaction in placing this jewel on a breast beneath which beats a noble heart.

DISTRIBUTION OF POPULATION IN MEXICO¹ ∴ ∴

By the late SUMNER W. CUSHING.

THE manner in which the people of Mexico are distributed is especially instructive because it exhibits such striking contrasts. A densely populated plain is often bordered by an almost uninhabited region of mountains. In the dry north a section supplied with water for irrigation may have 100 people per square kilometer, while an adjacent section, equally flat and fertile, but without water for irrigation, may have practically no permanent population. Again, a malarial coastal strip is usually unoccupied save for a few squalid families of fisher folk, while a well-drained section directly back of it is densely peopled. The causes of this peculiar distribution form the subject of this article.

The characteristics of distribution appear most clearly when the population is divided into rural and urban classes. If a town contains a population of 2,000 or more persons it is considered urban, for in Mexico such a place is almost sure to have many of the characteristics of a Latin city such as a plaza surrounded by at least a few government buildings, and a large church and an important market place, and perhaps some paved streets. Moreover, in towns of such size a

¹ Reprinted from the *Geographical Review* for April, 1921, published by the American Geographical Society, Broadway at One Hundred and Fifty-sixth Street, New York.

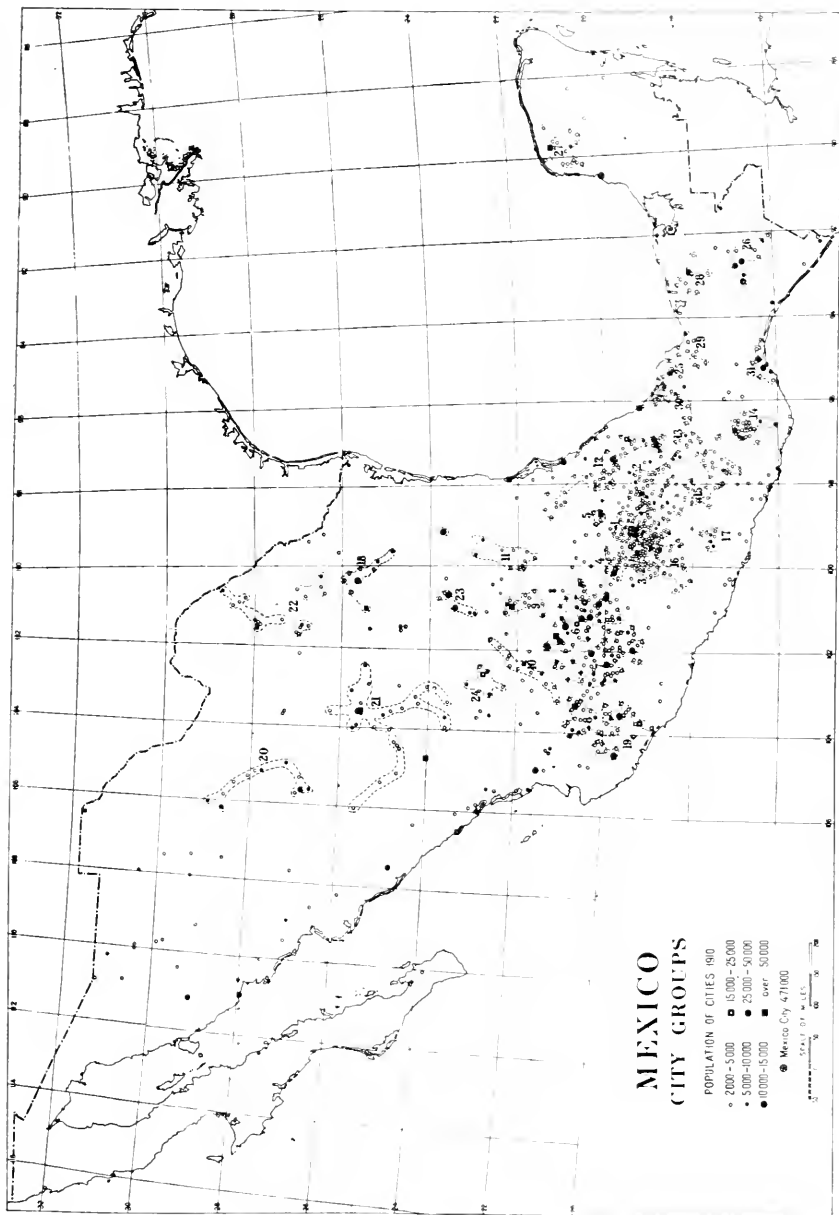
large proportion of the people are engaged in trade and transport, even though the business may be on a simple scale and be founded purely on agriculture. On the other hand, a great majority of the places of less than 2,000 persons are rural in the sense that they consist largely of the houses of farmers who go out to the fields each day. It must be borne in mind, however, that the differences between cities and villages in Mexico are not nearly so striking as in the United States. In the dry parts of the country even the smallest village is like a city in having the adobe houses all close together without intervening yards and gardens. On the other hand, in the wet portions of Mexico even the cities often resemble overgrown villages. In no part, however, are there many persons living on isolated farms, as is common with us. The Mexican rural population consists almost exclusively of villagers. Where the population is sparse it means that the villages are small and far apart.

Each of the two kinds of population, rural and urban, is illustrated by a map based on the latest census, that of 1910.² The maps have been carefully compiled, and aside from the imperfections of the census itself are believed to be accurate. In compiling the rural map the *partidos* or counties have been taken as the unit. The population of the towns has in each case been subtracted, and the number of remaining inhabitants has been taken as the basis for determining the population per square kilometer. In the city map the size of about 850 towns of over 2,000 is indicated by the size and character of the symbols. In compiling this map it was surprising to find that no more than about 600 of these towns were shown on any single map, although some were on one map and others on another.

Not only is the rural population of Mexico almost entirely agricultural, but the permanent wealth and prosperity of the country must depend on agriculture, in spite of the importance of certain minerals. Indeed, it is quite within bounds to say that if Mexico's rural problems were settled satisfactorily, many of the other difficulties would quickly adjust themselves. As a preliminary to the problem it is necessary to know something of the distribution of the rural population. This distribution depends largely on rainfall, altitude, and relief—for these conditions determine the success and intensity of farming.

The most striking thing shown by the map of rural population is the contrast between the very sparsely inhabited country districts in the northern half of Mexico and the densely populated south-central part. The chief cause for this contrast is rainfall. In the north there are fewer than five rural inhabitants per square kilometer because the rainfall is generally less than 20 inches (50 cm.), which is insufficient to water crops. Except where irrigation is practiced or mining is

² A map showing total population distribution is given by José Covarrubias in a publication of the ministry of agriculture, "Varios estudios complementarios de las leyes agrarias, Mexico," 1914. This is described as based on the *municipio* (township); the scale is approximately 1:13,000,000.—EDIT. NOTE.



Courtesy of the Geographical Review, published by the American Geographical Society, Broadway at 156th Street, New York.

GROUPING OF MEXICAN CITIES.

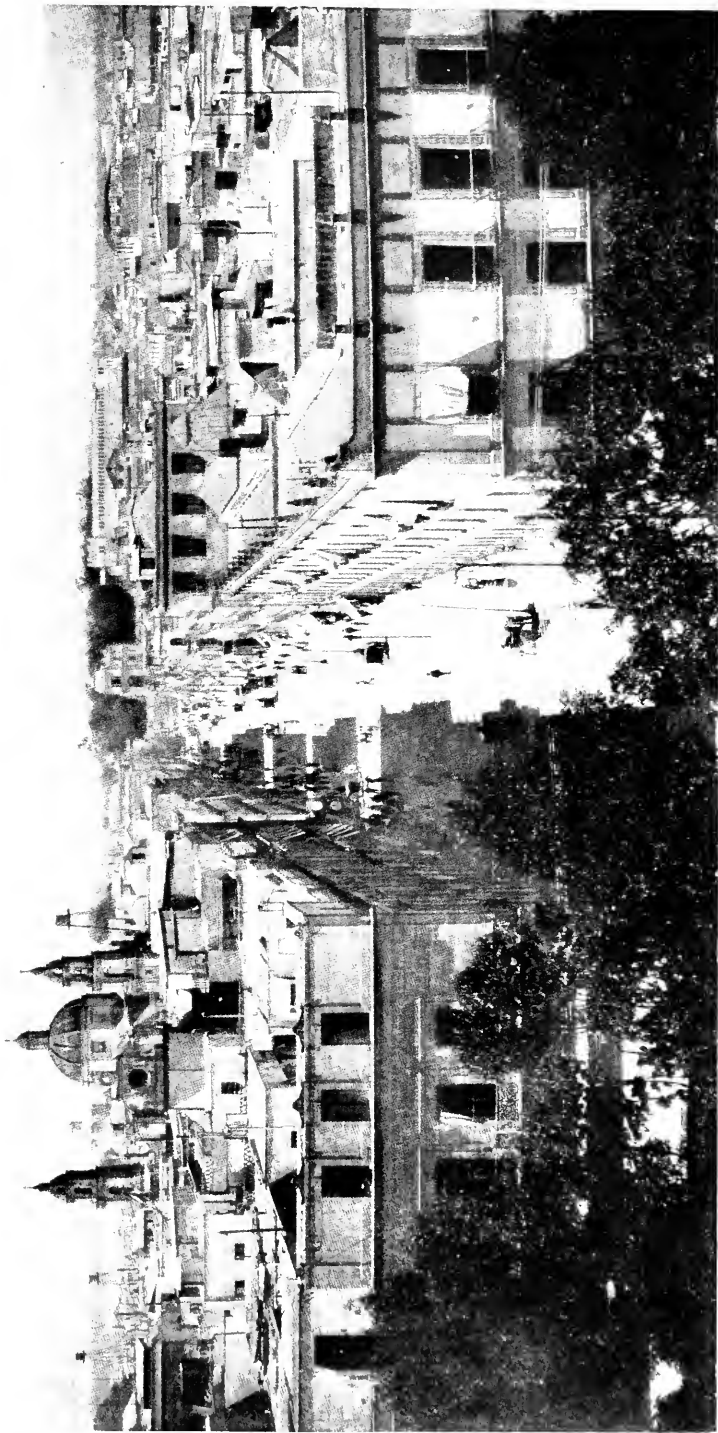
While some of the group cities in Mexico, notably those of the Laguna group, depend upon the mines for their growth and prosperity, the majority are located with regard to agricultural development, rainfall, waterways, and trade facilities.

carried on, the people are supported by grazing. In the extreme north and northwest, where the rainfall is even less than 10 inches (25 cm.), the rural population is less than one person per square kilometer. Here grazing is relatively poor; some parts, indeed, are typical deserts. This most sparsely settled portion of Mexico has about the same density of rural population as our Rocky Mountain States, while the rest of the northern half of Mexico has about the same rural density as our Pacific States. Because of the scarcity of isolated farms and ranches, however, the distance from settlement to settlement is greater than in the corresponding parts of the United States.

The effect of rainfall is strikingly exhibited in the environs of Monterrey, where a local increase of more than 10 inches is accompanied by a corresponding increase of rural population to more than 10 per square kilometer. South of this relatively favored section the rainfall diminishes a little and then increases once more. The rural population, however, does not respond as might be expected. The fact is that, although the total annual rainfall is greater than in the north, its distribution is not favorable; nearly all of the rain falls in late summer and early autumn, too late to give the crops a good start. Hence grazing is the main support of the very sparse population, and southern Nuevo Leon and nearly all of Tamaulipas are included in the section having less than five persons per square kilometer.

In the more densely populated south-central part the rainfall ranges from 18 to 40 inches or more, and practically all comes in summer when it is most needed. Here crop farming is successful, and the rural population rises to over 20 persons per square kilometer, about the same as that of the Middle Atlantic States of New York, New Jersey, and Pennsylvania—the part of our country where it is densest. In certain sections where agriculture is especially favored important cities have grown up. These in turn have made it easy to market crops and to get relatively high prices, and here 50 or 60 rural inhabitants, and even more, are supported by each square kilometer—a condition similar to that existing in the environs of our own large cities. Cities which have grown up in particularly good agricultural regions and which are surrounded by particularly large rural populations include Mexico City, Toluca, Puebla, Morelia, Leon, and Guadalajara.

The beneficial effect of increased rainfall, however, does not continue indefinitely, for there may be too much rain. This is especially the case in regions where the rain is distributed throughout most of the year, as in southern Mexico, instead of being limited to a single season, as in the center and north. In such regions agriculture becomes extremely difficult. This is partly because the constant moisture leaches away the plant foods from the soil so rapidly that one or two crops (where a single type of plant is cultivated) exhaust



VIEW OF A SECTION OF THE AVENIDA CINCO DE MAYO, MEXICO CITY.

the soil unless fertilizers are used abundantly and the subsoil is turned up by deep plowing—both very difficult processes for an inert tropical people with little energy and little capital. The difficulty of agriculture in tropical regions that are constantly wet is also due in part to the rank growth of native vegetation which chokes the cultivated crops. In these seemingly contradictory statements lies one of the most noteworthy characteristics of the vegetation in the moister tropical regions—its great diversity. A single species does not cover a given area and thus draw heavily on one or two special constituents of the soil, but many species grow side by side and so all are able to thrive. Thus the luxuriance of tropical vegetation can be overcome only by extraordinary energy on the part of the individual, which is rare in Mexico, or else by cultivating “plantation” crops such as sugar, bananas, rubber, and cacao. Such crops, however, support a dense population only when they are under the constant supervision of northern races who import food in exchange for the semiluxuries or raw materials raised on the plantations. Hence the abundant rains and the absence of a sufficiently long dry season in southern Mexico from southern Oaxaca and southern Vera Cruz southward and eastward cause the rural population to be as scanty in general as in the dry north.

Although rainfall is the chief factor in controlling the distribution of the rural population, its influence is greatly modified by altitude. Not only does altitude affect the amount and to some degree the seasonal distribution of rainfall, but it modifies the temperature and thus not only changes the kind of crops but alters the energy with which man attacks the difficulties of nature.

Within broad regions of favorable although variable rainfall the density of rural population varies with varying altitude. This is particularly striking in a zone across the country from Vera Cruz to Manzanillo. The well-watered Gulf plains are so little above sea level that their temperature is high and debilitating. Moreover, the dense weeds respond to the heavy rains, while the warm jungle breeds disease-carrying mosquitoes and other insects that make life miserable. Under these conditions the rural population remains sparse, from one to five persons per square kilometer.

As the altitude increases with distance from the coast, the temperature becomes more stimulating. The rainfall also increases; but, because of the relief, the third of the three great conditions that control the density of rural population, the rain runs off rapidly from the slopes, and there is no unhealthful accumulation of the water in swamps and marshes. With the increase in altitude as one approaches central Mexico the rural population rises from 5 to 10 and then from 10 to 20 persons per square kilometer when the high plateau is reached. The relatively dense population of the central plateau results almost as much from the high altitude and its stimulating temperature as from the favorable rainfall.

On the western coast as a whole the regions at a low altitude immediately bordering the sea (the coastal plain is very narrow or lacking altogether) have fewer than five rural inhabitants per square kilometer. As the altitude increases inland the density of population increases to 20 per square kilometer. Almost everywhere the higher densities of population advance toward the coast or retreat from it with the advance and retreat of the higher elevations. Thus a high plateau approaches the coast in Colima Province and with it the population line of 10 per square kilometer. The same thing happens in the case of the Guerrero plateau.

Other plateaus are equally potent in supporting a comparatively dense population. The Oaxaca plateau, almost isolated from the main body of the central plateau, has a population of from 10 to 20 or more per square kilometer. The still more isolated plateau of Chiapas supports a rural density of 10 and over per square kilometer, while all the bordering lower lands are less densely inhabited.

An exception to the influence of altitude is found in the low plains of Yucatan. Although the temperature is as debilitating as in the other lowlands, much of the northern half of Yucatan contains a rural population of over five to the square kilometer, and in about one-sixth of the State the density is over 10. The explanation lies in the relative dryness of the coastal region and especially in the sharply defined dry season and the free circulation of the air under the full exposure to the trade winds. These conditions give northern Yucatan another advantage, for they favor the growth of sisal. The region is so well suited to this fiber, which is so much needed for binder twine in the United States, that modern enterprise has gone in and helped to increase the unusually large rural population which existed here even before the fiber was raised for export. Beyond the relatively dry and favored area given over to sisal in the Yucatan peninsula, the constant rains and dense jungle cause the low plain to be an undeveloped wilderness in which roams a very sparse and wild Indian population.

In Mexico, as elsewhere, the level lands tend to support the largest rural population because of the usual association of fine fertile soil and the ease of tillage and transportation. Yet, as we have seen in both northern and southern Mexico, if rainfall is not favorable the plains must go almost unused, except perhaps for grazing. Or if the altitude is unfavorable, as in the Gulf coastal plain, the density of rural population is low. In south-central Mexico, however, all three elements—rainfall, altitude, and relief—are favorable over broad areas; and the combination produces Mexico's densest population.

Let us consider unfavorable relief. Rugged lands generally have coarse soil, plowing is troublesome, and gullying is rapid. Farming is correspondingly arduous, and the transportation difficulties in the

way of marketing surplus products are apt to be even more discouraging. The best illustration comes from the Sierra Madre Occidental. From southeastern Sonora across Sinaloa and Durango to central Tepic both rainfall and altitude are favorable for a good rural population, but relief is unfavorable. The density of rural population is between one and five per square kilometer, and in one section west of the city of Durango falls even below one per square kilometer. An important part of this population is engaged in mining. Another example is in southern Chiapas, where the rugged cordillera supports only a meager rural population; but, though the altitude is here favorable, the rainfall may be too heavy.

Ruggedness is a contributing cause of the low density of population along the western coast, for here the land begins to rise almost directly from the shore and soon becomes a maze of valleys and ravines. It might be thought that the eastern escarpment rising to the plateau from the inner edge of the Gulf coastal plain would also be rugged enough to keep down the rural population. Such is the case in part; but here even in the wildest sections are scattered innumerable pockets, parks, and valley floors, and these under favorable conditions of rainfall are ideal for corn, fruits, and especially coffee. These favored spots counterbalance the influence of a generally rugged topography and bring up the average density of rural population to 10 or 20 per square kilometer and even higher.

As an almost purely agricultural country, Mexico lacks the numerous large cities that are characteristic of countries where manufacturing is important. The population is one-sixth as large as that of the United States, but the ratio of cities is much less. In 1910 cities having over 10,000 population, Mexico had only 68, while the United States had 601, a ratio of one to nine. In the same year the United States had 50 cities exceeding 100,000 inhabitants (eight of these over 500,000) while Mexico had only two, the capital (471,000) and Guadalajara (119,000).

The important cities of Mexico are sustained chiefly by trade and not by manufacturing. Their most striking characteristic is that they are market places where the surrounding agricultural population buys and sells.

When it comes to the small center with several hundred or a few thousand people, Mexico has a larger share in proportion to the total population than the United States. This is the normal tendency in an agricultural region, as may be seen in States like Iowa, for the farmer needs a small market near at hand. The tendency to congregate in small towns has doubtless also been much increased by the general insecurity that has characterized Mexico for many centuries. When small bands of robbers are abroad a compact community gives a feeling of protection, even though it entails hardship upon the farmers who have to travel several miles to and from their farms. The ten-

dency for the people to congregate in small centers rather than live on isolated farms is also due in large measure to the water supply. In the north permanent supplies of water are so scarce that all the families of a considerable region must congregate at one spot. Even in the central plateau the long dry season in winter causes all the minor sources of water to dry up, so that the farmer can not depend on springs or wells on his own land. Hence the Mexican, even when he is a farmer, generally lives in what may be called a center of population. Sometimes the center takes the form of an hacienda or plantation headquarters, but usually it is a village.

The accompanying map shows the Mexican cities in their natural grouping. The cities themselves fall into the following classes, distinguished by symbols: Class 1, Mexico City, population 471,000; class 2, population from 50,000 to 125,000; class 3, population from 25,000 to 50,000; class 4, population from 15,000 to 25,000; class 5, population from 10,000 to 15,000; class 6, population from 5,000 to 10,000; class 7, population from 2,000 to 5,000.

To all students of Mexico the capital looms large. It rightly takes on great importance when compared with other Mexican cities, but it falls down when studied in relation to cities in other countries. Among American cities Buffalo, San Francisco, and Los Angeles rank well above it. Moreover, so many of the dwellers in the capital live in adobe huts of one or two rooms, and so few require space in office buildings as well as in homes, that the city makes less impression than its size would warrant.

Of the other large cities, Guadalajara ranks with Trenton, Puebla with Tacoma, Monterrey with St. Joseph, Mo., San Luis Potosi with Charleston, S. C., Merida with New Castle, Pa., Leon with Chattanooga, Veracruz with Kalamazoo, Aguascalientes with Saginaw, Mich., Morelia with Superior, Wis., and Chihuahua with San Jose, Cal. This comparison includes the 11 largest Mexican cities.³ To carry the comparison further would involve the use of American cities so small that there is little likelihood that they would be widely known.

The most striking feature of the city map is the concentration of cities, both large and small, in the south-central part of the country on the high Mexican plateau.⁴ An egg-shaped area whose larger end is at Guadalajara and San Luis Potosi and whose longer axis extends from those cities to Oaxaca would take in the region where cities are most numerous. This is the real Mexico, the place where the rural population is densest and hence where the cities grow largest. Although it occupies only a sixth of the country, it contains more than

³ In the comparison figures for the United States are according to the 1920 census; for Mexico, 1910 (there being no later census and no official estimate). Mexican cities are of much slower growth than cities of the United States.

⁴ Compare Prof. Jefferson's map showing the situation of Mexican cities in relation to the 5,000-foot contour line, *Bull. Amer. Geogr. Soc.*, Vol. 46, 1914, p. 437.

two-thirds of the cities and nearly two-thirds of the total population. Altitude, water supply, and soil are the chief favoring factors. The altitude lowers the temperature to a degree more favorable for work than in the lowlands, while it yet remains high enough to raise some crops profitably not only in summer, but even in December and January, provided there is water. The water supply in the form of rain or irrigation water from rivers and wells is adequate in general. The soil in the level areas is deep and of high natural fertility, quite unlike the depleted soil of the far wetter southern lowlands.

While a detailed study of individual cities is not appropriate in this article, it will be helpful to divide the cities of Mexico into groups



A GENERAL VIEW OF GUADALAJARA.

according to their geographical location. South-central Mexico contains 17 such groups as follows:

Ten central plateau groups: (1) Mexico City, (2) Puebla, (3) Toluca, (4) El Oro, (5) Pachuca, (6) Guanajuato, (7) Michoacan, (8) Jalisco, (9) San Luis Potosi, (10) Rio Verde.

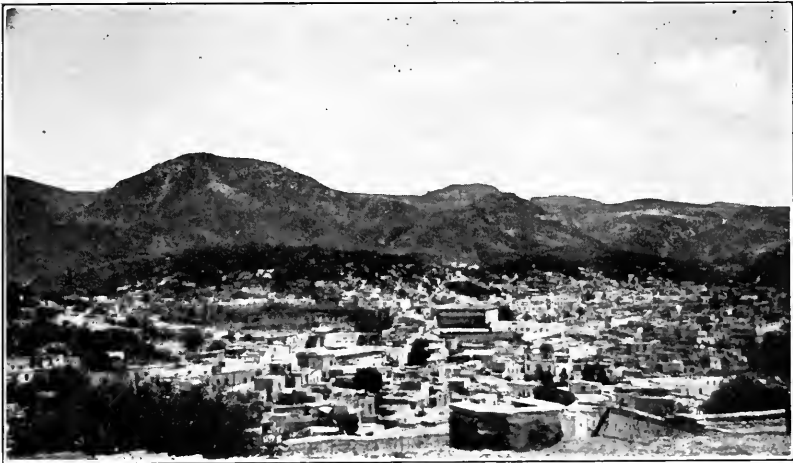
Three eastern coast escarpment groups: (11) Southern part of Tamesi-Panuco, (12) Vera Cruz, (13) Papaloapam.

Three western coast escarpment groups: (14) Oaxaca, (15) Mexcala, (16) Morelos.

One isolated plateau group: (17) Guerrero.

The groups are separated from one another either by mountains, such as those between the Mexico City group and the Puebla group; by rugged valleys, as between the Guerrero plateau group and the Morelos escarpment group; or by arid stretches in which water is not available for irrigation, as between the San Luis Potosi group and surrounding groups.

One of the most interesting and important differences among the larger plateau groups is the present rate of growth. This probably depends in considerable measure upon the relative fertility of the soil. The Guanajuato plateau group and the Mexico City group serve as examples. Around the former the soil is highly fertile because of good climate and favorable chemical composition. Moreover, although the region was densely populated in ancient times, it has not been intensively farmed in recent generations as has the region near Mexico City. When Cortez entered the Valley of Mexico he found the Aztecs cultivating it, and since then cultivation has been continuous without the use of artificial fertilizers. The growth of cities on the Guanajuato plateau is rapid, while on the Mexico City plateau it is almost stationary, aside from the influence of the capital. Already the Guanajuato



A GENERAL VIEW OF THE CITY OF GUANAJUATO.

plateau has 12 cities of the fifth rank or higher—that is, with over 10,000 inhabitants—while the Mexico City plateau has only 7. All of these except one are so closely huddled about the capital that they seem to be sustained more by its influence than by the resources of the surrounding country. At present, however, cities or towns of the lowest ranks, with 2,000 to 10,000 inhabitants, are more numerous and in more compact groups in the Mexico City plateau than in the Guanajuato plateau. This is probably due to the good rainfall. In the Guanajuato plateau, on the other hand, there are certain sections where the need of irrigation prevents the growth of cities unless an artificial supply of water is available to supplement the rainfall.

In the Puebla group the influence of good farming conditions is evident from the rather even distribution of many minor cities, while the influence of general prosperity appears in the development of the city of Puebla. That city, however, like Mexico City, has grown far

larger than the conditions of the immediate environs would justify and has become the third city of the country. This rank is due partly to the religious importance of Puebla in Aztec and colonial times, partly to the recent introduction of manufacturing, especially cotton, and still more to the help of direct railway communication with three important regions—(1) Mexico City on the northwest, (2) Vera Cruz on the east, and (3) Oaxaca on the south.

Turning now to the minor groups on the plateau, the Toluca and El Oro groups are almost continuous with the Mexico City group and have similar plateau conditions. The Michoacan and Jalisco groups are favored agriculturally like the Guanajuato group, but they suffer from insufficient transportation. Both have only the blind ends of railway systems and are hampered by the lack of through routes.



A VIEW OF MORELIA LOOKING NORTHEAST FROM THE CATHEDRAL TOWER.

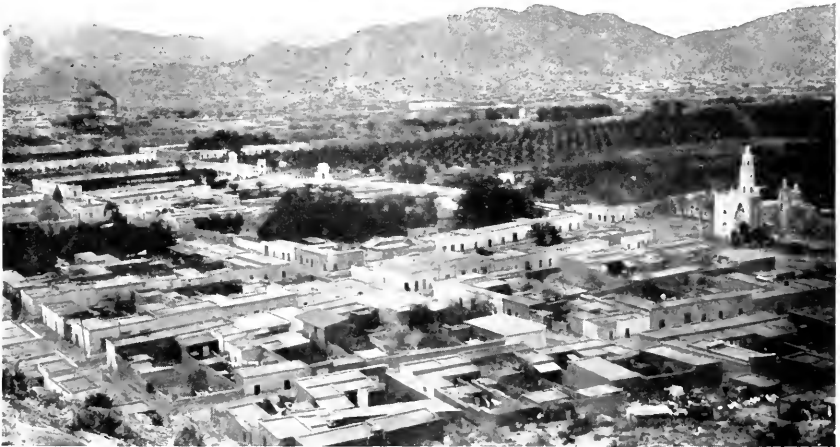
In this respect they contrast strikingly with the Puebla group. The Guerrero group, however, is still less favored, being the most isolated of the plateau groups. It is cut off on all sides by valleys and has no railway connections. It is no wonder that it lacks cities above the sixth rank, none having over 10,000 inhabitants.

Not all of the plateau groups are dependent primarily upon farming. The Pachuca and San Luis Potosi groups are supported principally by mines. Both are located in almost the driest stretch of south-central Mexico, where farming is impossible except by irrigation, and this is limited by a small supply of river and well water. But nature has endowed the adjacent hills with deposits of precious metals so that the small groups of cities are well sustained. Each carries on a lively trade with the mining camps and smelts a great deal of ore.

The Rio Verde group, the remaining plateau group included in the populous central plateau, is closely associated with the valley whose

name it bears. It makes use of its waters for irrigation and enjoys the easy means of transportation which the valley affords in this rough region.

One of the most interesting aspects of the growth of cities in Mexico is the influence of the escarpments that intervene between the low coast lands and the high plateaus and mountains of the interior. At first thought, a rugged escarpment would seem to repel city growth, but between the stern inhospitable ridges are many smiling, flat-floored valleys and coves. These open stretches have the advantages of the plateaus in their stimulating altitudes and deep soil. Moreover, their position either gives them a good rainfall, or, failing this, they are well supplied with water for irrigation, since they lie along streams that rise in the plateau.



A GENERAL VIEW OF HERMOSILLO.

Irrigation is of no great moment in the Vera Cruz section of the escarpment, because there the rainfall is sufficient for the needs of the farmer, but elsewhere it is of prime importance. In fact, in the drier sections, such as the northern part of the escarpment on both the eastern and western coasts, the cities have a characteristic location in that portion of the river's course where the volume is greatest; that is, just before it begins to dwindle through evaporation and absorption. So narrow are these favorable limits that in many cases only one city finds room along each stream. This accounts for the line of isolated cities along most of the western escarpment.

Not only the location but the size of the escarpment cities depends on the water supply. A close inspection of a drainage map shows that the larger escarpment cities in the dry sections are on the larger rivers. Thus Hermosillo and Culiacan, two cities of the fifth rank

(10,000–15,000), which is large for that part of the country, are located upon two of the largest rivers of the western coast, while the seventh-rank towns are on small streams. Such a relation, however, does not apply to the Rio Grande de Santiago farther south since it flows through a region of abundant rains.

By far the most important section of the escarpment, as the map clearly shows, is that which contains the Vera Cruz group of cities, including Orizaba, Jalapa, Cordoba, and Teziutlan. This group has all the advantages that have been enumerated for escarpment cities in general, and, in addition, an abundant rainfall and unusually good transportation, since the cities lie on routes from Vera Cruz and other points on the coastal plain to Puebla and Mexico City.

The San Juan escarpment group (18) stands next to the Vera Cruz group in importance. Monterrey and Saltillo are its chief cities. It is given the name San Juan because the San Juan River system is the dominating factor. The special advantage of the two chief cities is that they are important railway centers on the shortest and best route from the United States to the Mexican plateau.

To the south of the San Juan group comes the escarpment city of Victoria on the Rio Soto la Marina. Then comes a group of unimportant cities scattered over a large area that is associated with the Tamesi and Panuco Rivers, chiefly with the latter. This group promises to grow rapidly in importance with the rise of Tampico.

South of the Vera Cruz group the escarpment swings around the side of the plateau and holds three groups of cities—the small Papaloapam group, associated with the upper waters of the river system of that name; the scraggly group, associated in the main with the headwaters of the Mexcala River; and the hollow group in the Province of Morelos. Only the last holds a fifth-rank city—Cuernavaca. This seems to owe its importance to the close proximity of the densely populated plateau groups. Most of the “cities” are of the lowest rank, and even these are scattered. The unimportance of these three groups, as compared with the plateau groups, is due chiefly to inadequate transportation facilities. The few railroads that enter the groups end blindly within them, except one which goes on to Oaxaca to a like end.

West of Morelos the escarpment group thins to a scanty line of towns of the lowest rank. The reason is obvious. No railroad penetrates the section, and trade carried on along mule trails does not suffice to develop cities of importance.

When the escarpment line reaches the railway that runs from Manzanillo to the interior it expands to include a small group of cities with Colima, a city of fourth rank, as the nucleus. It expands, too, a little to the northwest to include the group centered about Autlan (19). Here the terrain partakes of the nature of a detached

plateau as much as an escarpment. Surprising as it may seem, the port of Manzanillo (1,503) is too small to appear on the map, even though it is a railway terminal. Northwest of Autlan the escarpment cities form merely a thin line for 800 miles to Hermosillo beyond which the escarpment ceases to exist.

As might be expected, the desert cities of Mexico are grouped according to river systems, water being the prime factor. Water is so scarce, however, that irrigation is limited. Although ranches are widely distributed over the whole region, it usually happens that the main dependence for the food supply is placed upon a distant region like south-central Mexico or the United States. The cities are sustained by trade in these commodities with the surrounding mining camps and ranches and by transportation and industries related to minerals and cattle. This explains how such towns can grow up in



A VIEW OF CHIHUAHUA FROM THE TOWER OF THE CATHEDRAL.

regions where there is almost no population outside them, as appears on the map of rural population.

The Rio Conchos group (20) lies along the Rio Conchos, the first large river system in Mexico south of the United States border. Numerous tributaries rise in the eastern slopes of the Sierra Madre Occidental and flowing to the northeast unite to form the trunk stream which empties into the Rio Grande near Presidio. As the main stream flows across the dry sandy desert of the eastern part of the Province of Chihuahua it dwindles greatly and in dry seasons disappears altogether. Hence we find no cities along this portion of the course; they are all located on tributaries that are small, but perennial.

Chihuahua, on the Chubiscar tributary, is the lion of the group. With the dammed-up waters of the Chubiscar the city is well supplied for washing and drinking purposes and can carry on some irrigation. But the main support of the city is trade with the highly successful mines in the vicinity and the ranches of the rich grazing lands to the

west. This trade is facilitated by two important railways, one being the main line from El Paso to central Mexico. Parral, near the southern end of the group, is the counterpart of its northern associate in relation to ranches and mines, but, being on a branch of the main railway, it is handicapped in transportation.

The Laguna group (21) is located partly in a broad basin, known as the Laguna District, and partly along the two chief rivers that empty into the basin, the Rio Nazas from the southwest and the Rio de Nieves (or Aguanaval) from the south. On the western edge of the basin is Torreon, with two important suburbs, Gomez Palacio on the northwest for manufacturing and Lerdo on the west for the better class residences. These three form the nucleus of the whole group.

Because of a good supply of water for irrigation and because the flat floor of the basin (an old lake bottom) is ideal for water distribution, farming is more successful than in connection with any other desert group. Two products stand out notably—cotton and wheat. The Laguna district is Mexico's chief cotton section, and more wheat is raised there than is needed locally. All other food products, however, are imported. The Laguna group of cities, therefore, thrives on trade in cotton, wheat, imported foodstuffs, and the products of neighboring mines. A local plexus of railroads cares for the needs of the basin, and it is connected with outside sections by railways running south to the Mexican plateau, east to Monterrey, northwest to El Paso, and southwest to Durango.

All the other groups of the northern deserts and arid lands are based primarily on minerals; the coal group is centered around the Sabinas basin; the iron group around Salinas Hidalgo; the Monclova group has mines of its own, but more important still is the smelting carried on with coal from the north and iron ore from the east (22). Both the Matchuala (23) and Zacatecas (24) groups are founded almost literally upon silver and have other valuable mineral deposits.

There remain to be treated seven groups of cities located in southeastern Mexico. Two of these, the groups of the Tuxtla and Chiapas, are merely small isolated groups that possess most of the advantages of those already described on the escarpments since they nestle in coves at considerable altitudes, the first on the flanks of the Tuxtla volcano (25) and the other in the valley of the Rio Chiapas as it traverses the Chiapas plateau (26).

The other five groups are situated at low altitudes and have sufficient rains, hence they are founded upon farming and trade in tropical products destined for temperate countries. The most conspicuous of these is the Sisal group of Yucatan (27). Its center is Merida, a city of second rank; and it is blessed with a network of railways to collect the valuable sisal fiber destined chiefly for the rope factories of the United States. If the use of sisal for binding twine were to

be given up, this group of cities would suffer a severe blow but would probably still prosper, as they have long done, because northern Yucatan is apparently the best of the Mexican lowlands in climate.

The economic backbone of the group centered around San Juan Bautista (28), now called Villa Hermosa, is the banana, although other tropical products are important, such as cacao, sugar, and cabinet woods. From its headquarters at Frontera the United Fruit Co. extends its influence over the whole group and accumulates its products over an extensive system of navigable waterways. A short railway links the Grijalva River system with the Usumacinta.

The three other lowland groups—the Puerto Mexico group (29), the Papaloapam Valley group (30), and the Tehuantepec group (31)—



GUAYMAS BAY AND CITY, MEXICO.

are supported by a variety of tropical products. Chief among them are rubber, coffee, sugar, bananas, coconuts, and vanilla. The Tehuantepec group shows the influence of the Isthmian railway.

It is noteworthy that the seaports of Mexico, excepting the minor ones of Puerto Mexico and Salina Cruz, are not members of city groups. Tampico, Tuxpan, Veracruz, Campeche, Progreso, Acapulco, Mazatlan, and Guaymas are all isolated. Each is located on the hot, wet, malarial lowlands, and the population remains in the city merely to profit by the passing of imports and exports. Other cities in the vicinity would not share in this profit, and, on the other hand, there are several conditions to discourage their growth. This is why several relatively well known Mexican seaports like Manzanillo and San Blas fail to appear on the city map. The conditions of health are so bad that the ports fail to attract as many as 2,000 persons.

AN OIL ENTENTE¹ . . .

By Dr. VAN H. MANNING.

ONE of the unfortunate results of the war has been a departure from a friendly spirit of competition between some of the nations of the world. A nationalistic tendency has developed involving programs of exclusion or discrimination against aliens and the policy of one power and monopolistic development of domains by the nation under whose sphere of influence the territory happens to be.

We must expect as a natural result of the war an awakened sense of self-protection. All nations may well give serious consideration to the question of their future supply of raw products, but this must not be at the price of sacrificing principles in international trade which are the very substance of world progress in peace. The rules of competition should not be discrimination, and a policy of discrimination is distinctly irreconcilable with the broad motive of national security, as we see it in this country. It is, moreover, not a far-sighted policy to conserve within the confines of any nation the materials which are now essential to civilization and the world's progressive welfare.

There are 21 countries or national groups now classified as producers of petroleum. Several of these produce in a small quantity, have marketed little oil, and are more properly producers in a potential sense. The countries whose output totals over 35,000 barrels annually number 17. The nationality of the dominating interests in the present producing countries is divided. In the United States, Mexico, Peru, Canada, and Colombia (the latter country not yet marketing any oil) Americans are the largest producers. India and Persia are under exclusive British control. In Russia, Dutch East Indies, Rumania, Trinidad, Egypt, Venezuela, the British and Dutch hold the dominating interests. The French are the major producers in Galicia, Alsace, and Italy; they dominate in Algeria, where the English are also interested; the Argentinians control and are the major producers in Argentina; the Germans are the major producers in Germany; the Japanese in Japan and Formosa; and the Portuguese and Americans in Angola, which is still a potential rather than an actual producer.

It has been stated that America is in no position to talk of foreign domination of the oil resources of the world when American interests control something like 80 per cent of the world's present actual production. But of the world's present petroleum output, 69 per cent

¹ Reprinted from the *Bulletin of the American Petroleum Institute*.

is being supplied from wells within the territorial limits of the United States—a home production in our back yards and often in our front yards, the development of which, however, has been as open to participation by foreign interests as by American citizens.

It is generally admitted that we of the United States are confronting a great crisis in the oil industry, and it is therefore pertinent to the discussion of this great international subject to make an analysis of our own supplies and demands, since we are the largest producers and consumers of petroleum and its products.

We are consuming more of these products than we are producing within our own territory. The latest statistics show that this year's domestic production will be about 450,000,000 barrels of oil, and our imports from Mexico will probably be for this year 125,000,000 barrels, a total of 575,000,000 barrels.

The rapid development of the automobile industry gives one a visualization of a condition of gasoline consumption that must be reckoned with for the future. The growth of farm tractors and airplanes is creating a great market to be supplied. Industrial and marine use of fuel oil is taxing the oil industry to the utmost. One gets a very graphic picture of the probable ascent of the consumption curve and of the gravity of the production situation when it is considered that this Nation is predominant in the use of the internal combustion engine; that we operate approximately six-sevenths of the motor-driven vehicles of the world. Compare the production of 1919 (377,000,000 barrels) and imports of 52,000,000 barrels with the 1920 figures of 575,000,000 barrels. Be it said to the credit of the oil industry that this unprecedented demand for petroleum was met by it.

I have been referring heretofore to production figures only, and that story is behind us. Now we turn to the future supply, and by this I mean resources in the ground. It is estimated that the United States has in the ground about 12 per cent of the recoverable oil and Mexico has about 7.5. In the United States and Mexico, American citizens control by ownership about 16 per cent of the world's future supply of oil. Outside of the United States American capital controls about 2 per cent of the oil resources. This means that the United States controls only 18 per cent of nature's oil-storage tanks.

Do these figures suggest to you a monopoly by the United States? On the contrary, they emphasize the necessity of an immediate declaration on the part of our Government of a petroleum policy which should be prompt and definite—a policy that will encourage Americans to develop foreign fields. The United States has never taken advantage of its political influence or its control in the affairs of its people to close the door to outside interests. Nor has the United States taken the attitude that it did not approve of concessions being given to other nationals because it believed the concessions should be conserved for our own use.

These are 17 countries, inclusive of colonial possessions, which have laws or regulations which directly or indirectly or remotely relate to restrictions on petroleum development. Some of these restrictions which discourage American development of foreign fields are as follows:

1. Foreigners and foreign nationals are debarred from owning or operating oil-producing properties.
2. Government participation in ownership and control of petroleum companies.
3. Restrictions against sale of property to foreigners by nationals.
4. Prohibition of the transfer of shares in companies to other than their nationals.
5. Complete nationalization of the mineral resources of which petroleum is one.
6. Special Government license.
7. Denouncement of mining properties which were acquired in accordance with existing laws.

The restrictive measures which have gained headway in many outside territories supply an answer and furnish an exhibit strikingly illuminative of the necessity of our Government having a definite petroleum policy.

I wish to state directly that in the absence of any such policy our Government through the State Department has taken many steps looking to the removal of restrictions which operate directly or indirectly against our citizens in foreign countries. Representations have been made to every oil-producing nation in which Americans are operating where restrictive laws or regulations obtain. But of what avail are representations unless they are backed by the forceful definiteness of a real policy? How can American interests be best supported, taking into full consideration the various aspects of the international petroleum situation?

Suggestions of constitutional amendment which admit of levying of an export tax have been made. Others include the placing of export embargoes, the reenactment of that clause of the tariff act of 1919 which is a retaliative measure, the Federal chartering of an oil corporation to engage in foreign operations. All of these suggestions require congressional action.

A rather unique suggestion was made that the President of the United States should say to the oil men: "Go out into the world and drill for oil and the United States will protect you." Our diplomatic representatives have been at a hopeless disadvantage in many of their negotiations.

Of course it is to be understood that I am not authorized to act as a spokesman for the Government of the United States in its negotiations with foreign countries, but I do find myself in a position, due to

my former official status with the United States Government and a subsequent knowledge of oil matters, to say that our Government is acting to the best of its ability, and is not only fully aware of the gravity of the problems, but has for some months been taking a vigorous action toward its solution. The British Government has been conducting correspondence with the United States Government on the general oil subject. The American point of view in respect to the principles upon which provisions to be agreed upon for the distribution of oil produced in mandated countries is that a mandatory is not privileged to exploit raw materials produced in mandated territory for its own benefit, and that all nations should enjoy equal commercial opportunities in such territories; and it is significant to know that the open-door principle is one which both American political parties have always strongly championed.

The latter part of June I attended the meetings of the International Chamber of Commerce held in Paris as a delegate from the American Petroleum Institute. The American delegation representing petroleum presented the following recommendations, which were made a part of the resolution adopted to encourage production of petroleum products. The American delegation representing petroleum advises:

That the consumption of petroleum throughout the world is exceeding production; that the consumption is constantly increasing; that the world is confronted with a serious shortage in the near future unless energetic efforts are made to increase the production; that in their judgment sufficient undiscovered petroleum deposits exist in many parts of the world to supply present and future requirements; that curtailment of exploration and production is being caused by restrictive laws and regulations of many governments; that a free opportunity to all nationals to explore and develop the petroleum resources of the world wherever found should be freely extended; they therefore recommend that laws, regulations, or administrative acts which tend to retard the development of the petroleum resources of the world should be repealed or revoked, and that equal privileges in all parts of the world be granted to nationals of all countries in the production of this great and useful national resource, so vitally essential to the world's progress.

The representative five great nations, the United States, Great Britain, France, Italy, and Belgium, attending this congress realized the dangers of conflict in discriminations to the countries which own raw materials, and a committee is to be appointed to "study the status of raw materials during the period of economic balance, which status shall be based upon the principle of economic fairness for all countries."

A fundamental basis for an economic study of any industry is complete and reliable information, not only for the determination of a sound international political and commercial policy, but also for the intelligent conduct of commercial enterprise; therefore the board of directors of the International Chamber of Commerce were directed "to consider the advisability of establishing a central bureau of inter-

national statistics for the purpose of collection, centralizing, analyzing, and interpreting statistical information for the business interests of the world"; and it was urged upon those agencies charged with the collection of statistics "to take immediate steps to secure a greater degree of international uniformity in the classification of statistics and the method of determining the value and quantity units used in recording them."

The American Petroleum Institute has announced its purpose to collect, analyze, and interpret all the world's petroleum products statistics, and the cooperation of all the oil interests is necessary to bring this important work about.

If governments undertake to venture in the oil business it destroys the formation of international competition. Great Britain became interested as a partner in the oil business, therefore she has become the target of international criticism; not, however, on the ground of a business enterprise, but on the charge that she was developing an oil policy which definitely excluded foreigners from participating in the development of the areas over which Great Britain exercised control.

It is stated by British officials that Great Britain has no definite petroleum policy, nor have we a policy. If these two great nations admit, which they do, that a foreign policy is essential the United States should be the pioneer in legislation and the motto of "strict impartiality, fairness, and protection" should be fastened at the mastheads of the "ships of nations."

What now is the position of the United States in petroleum areas of the world—these empires so extensive and vast in their present scope and potentialities that no one corporation or nation can expect to gain or maintain control of them? While we are still preeminent in production, refining, and transportation, are we secure—is the world secure—in the fundamental matter of continued adequate supply of the raw material?

My opinion is that the Navy and merchant marine should have a preferential call on oil for their bunkers because of its many advantages over coal. These practical advantages were demonstrated during the war with the result that other nations of the world were convinced of its desirability. The natural and inevitable result has been a wild scramble on the part of the great nations to secure sources of petroleum supply. The former self-sufficiency of the United States because of its relatively large production has made our nationals rather backward in acquiring concessions and leaseholds in foreign fields, particularly where not contiguous to our own borders. Some few United States oil companies have gone extensively abroad, but they have had to contend with many difficulties in obtaining concessions in the promising potential production areas in the world. In dealing with a commodity as varied in production as petroleum, estimates of future reserves are subject to a large coefficient of error, but the best

scientific estimate indicates that there is an evenly balanced distribution of petroleum between the Eastern and Western Hemispheres. The petroleum resources of the world are today hard put to supply the vastly increased demands for petroleum products of all kinds and the welfare and security of any nation as far as its petroleum products requirements are concerned must be predicated upon the maintenance of reciprocal relations between nations and a strict adherence to the principle of reciprocity.

It is only by the free and unhampered development of petroleum resources of the world that they can be obtained and maintained for the future in sufficient quantities to meet the universal and ever-growing demands of all nations. The world to-day is confronted with a petroleum problem which demands serious consideration by all nations working as a unit under a plan capable of immediate application, and the future peace of the world depends to a very great degree upon a unity of action which will assure equal treatment to all nations in their explorations and developments of oil properties wherever found.

We are facing a situation that must be largely solved by the American oil men who have been the pioneers in the oil business, and it is not through any sense of proprietorship that they ask an entry into foreign lands to develop the oil resources of nations where capital and talent are unavailable or restricted. On the contrary, American oil men are influenced by a desire to render a distinct benefit to the world by seeking to perpetuate an industry which is one of humanity's greatest assets. It is an inherent pride in the heart of every man who has contributed to the progress of science and industry to prolong the life of his creation. I am optimistic in my belief as regards the future development of the oil industry of the world, which belief is predicated upon my faith in the well known ability and resourcefulness of the oil men of the United States who have done their share of the world's work. Their continuing efforts will depend largely upon the support they receive from their government. A rule of action enunciated by Thomas Jefferson was a principle "that the American citizen abroad owes and discharges tax and military service to the United States. The United States owes and must discharge to that citizen the duty of protecting him in his life and property." This is good Americanism. It does not mean war or commercial destruction. It means peace and prosperity between nations. Venturesome oil men will be loath to risk their investments in the development of properties when changes in government, retroactive legislation or empirical regulation work to the spoliation of their acquisitions. Our Government should continue to insist on the open-door policy in all countries and when this policy is conceded effective means should be provided to protect such rights acquired by American citizens.

I wish it were possible for me to announce to you concretely what the policy is to be of the two great countries that I have just visited—England and France. They say they have none, and, like them, we must also plead guilty. Our Chief Executive, members of the Cabinet, ambassadors, Senators, Congressmen, and oil men agree as to this phase of the international situation, but who is to take the initiative in framing a policy? Congress says we must wait for the administration or the oil men to tell us what is required. My advice to the oil industry is to agree upon a fundamental principle and urge its adoption. The last official word on this subject was issued by the Federal Trade Commission in its report to Congress on June 1, 1920, on the causes of the recent advances in the price of petroleum products, and it says:

While the production of crude oil in this country is still on the increase and the present sources of supply appear to be adequate for some time to come, the probable gradual decline of crude oil production in the country in the not remote future, according to the general prediction of geologists and the men engaged in the industry, makes it seem the part of prudence to encourage those engaged in such industry in this country to develop production in such foreign countries which have oil resources as are most available for furnishing supplies of oil and that such enterprises should be given all proper diplomatic support in obtaining and operating oil-producing property.

Again I say our diplomats are doing all that is humanly possible to untangle this intricate problem. No greater or more lasting and far-reaching service can be rendered to the world at the present time than making possible and effecting the securing by or for American citizens a participation in the development of the world's resources of petroleum. This may be accomplished under the following plan:

1. To make a careful study of the oil resources of the world and the laws and regulations governing these resources.

2. Congress should enact a general reciprocity measure covering all trade relations with foreign countries.

3. To encourage our nationals to acquire and develop and market oil in foreign countries: (a) By an assured adequate protection of our citizens engaged in securing and developing foreign fields; (b) by cooperative action on the part of the industry under Federal charter or otherwise that will permit the industry more effectively to perform its function in seeking out and acquiring oil territory in foreign country, developing the same, and distributing the petroleum produced therefrom.

When these things have been accomplished, then our State Department should begin its negotiations to develop an *oil entente* for all nations. We can not indefinitely carry the burden of furnishing the potential supply of petroleum for the world, and if there could be brought about an association of international relationship between these oil-producing countries working in harmony to furnish the world with power and light, a repetition of a world war would be impossible.

TROPICAL AMERICAN WOODS FOR MARKETS OF UNITED STATES

By H. N. WHITFORD, Yale School of Forestry.

THE forested regions of tropical America cover a much larger area than those of the United States, and, so far as known per unit of area, the average amount of timber is at least as much. In every world's fair held in the United States a number of the Latin American Republics have had wonderful exhibits of many kinds of woods from their forests. In many cases these displays have attracted widespread attention. At the close of the exhibition, samples have found their way into museums and are there exhibited usually as curiosities; but few of the woods thus displayed have reached the markets to become an important article of commerce. It is true that two woods, mahogany and Spanish cedar, the former especially, have a recognized standing in the lumber trade. Partly because of its qualities and partly because of its historical value mahogany is the one tropical wood that plays an important part in the making of furniture—one of the basic industries of the United States. While many other kinds of woods from tropical America enter the markets and are preferred for special uses, few of them have a recognized standing as being indispensable. On the other hand, the northern Republic ships yearly to all of her southern neighbors many times as much lumber as she obtains from them. The following table represents graphically the condition in 1919 of the interchange of this commodity:

TABLE I.—*Export and import trade of wood between the United States and Latin American countries (including European colonies), 1919.*¹

	Exports from United States.			Imports to United States.		
	Softwood.	Hardwood.	Total.	Hardwood.	Softwood.	Total.
	<i>M. bd. ft.</i>	<i>M. bd. ft.</i>	<i>M. bd. ft.</i>	<i>M. bd. ft.</i>	<i>M. bd. ft.</i>	<i>M. bd. ft.</i>
Argentina.....	84,644	13,627	98,271	22	.....	22
Brazil.....	1,035	1	1,036	2,684	.....	2,684
Bolivia.....	531	27	558	.....	.....	.....
British Honduras.....	1,172	.....	1,172	6,387	.....	6,387
British Guiana.....	973	.....	973	41	.....	41
British West Indies (other).....	3,844	.....	3,844	39	.....	39
Chile.....	6,624	380	7,004	.....	.....	.....
Colombia.....	771	.....	771	819	.....	819
Costa Rica.....	833	.....	833	2,170	.....	2,170
Cuba.....	184,896	1,624	186,520	3,575	.....	3,575
Dominican Republic.....	7,534	.....	7,534	257	.....	257
Dutch West Indies.....	1,821	.....	1,821	1,348	.....	1,348
Dutch Guiana.....	.....	.....	.....	31	.....	31

¹ Compiled from Foreign Commerce and Navigation of the United States for the calendar year 1919.

TABLE I.—*Export and import trade of wood between the United States and Latin American countries (including European colonies), 1919—Continued.*

	Exports from United States.			Imports to United States.		
	Softwood.	Hardwood.	Total.	Hardwood.	Softwood.	Total.
	<i>M. bd. ft.</i>	<i>M. bd. ft.</i>	<i>M. bd. ft.</i>	<i>M. bd. ft.</i>	<i>M. bd. ft.</i>	<i>M. bd. ft.</i>
Ecuador.....	248		248			
French Guiana.....	10		10			
French West Indies.....	8,824		8,824			
Guatemala.....	1,419	4	1,423	352		352
Haiti.....	3,433	43	3,476	1,186		1,186
Honduras.....	3,926	18	3,944	827		827
Jamaica.....	5,983	20	6,003	65		65
Mexico.....	93,596	2,140	95,736	6,967	22,507	29,474
Nicaragua.....	256	1	257	14,337		14,337
Panama.....	25,895	76	25,971	1,435		1,435
Paraguay.....	187		187			
Peru.....	36,806	345	37,151			
Salvador.....	1,454		1,454			
Trinidad.....	4,673		4,673			
Uruguay.....	17,179	1,780	18,959			
Venezuela.....	547	14	561	303		303
Virgin Islands.....	510	35	545			
Total.....	499,615	20,135	519,750	42,845	22,507	65,352

The figures presented above show that every one of the European colonial possessions and independent Latin American countries import timber from the United States. On the other hand, practically all the colonies and only 13 of the Latin American Republics send wood products to their northern neighbors. In the aggregate the balance of trade in these products is greatly in favor of the United States for she sends out 8,000,000 feet of lumber to every 1,000,000 received from the remaining American Republics. The 1919 figures show also that only five southern political units send more timber to the United States than they receive from her; these are Brazil, British Honduras, Colombia, Costa Rica, and Nicaragua. The reason for this one-sided trade involves the consideration of many factors which center in the unfavorable economic conditions for the utilization of the woods in the Latin American countries as compared with the United States.

CHARACTER OF THE FORESTS AND THE WOODS.

Two kinds of forests exist in the United States—one composed of pines, spruces, firs, larches, and the like, and another composed of oak, beech, maple, birch, gum, hickory, poplar, ash, etc. The former are known as "softwoods" and the latter as "hardwoods," though there are all degrees of hardness among them.² In some places both kinds are mixed.

² The terms "hardwood" or "softwood" when written as one word are not generally understood beyond the confines of the United States, especially in tropical American countries. They are the outgrowth of the development of the lumber trade. Generally the former term refers to broad-leaved or dicotyledonous trees, and the latter to the needle-leaved or coniferous trees. While the texture of the wood of the former is generally harder than that of the latter, yet many so-called "hardwoods" are softer in texture than some "softwoods." It is unfortunate that these terms have crept into the lumber trade, for it leads to such terms as "soft hardwood" when referring to a hardwood that is not hard in texture, or to hard pine when referring to a "softwood" that is hard in texture. The term "hardwood" forests as applied to tropical forests has led to the belief that the woods of the Tropics are all excessively hard in texture, when as a matter of fact many of them are as soft as many "softwoods," and some of them much lighter in weight and softer in texture.



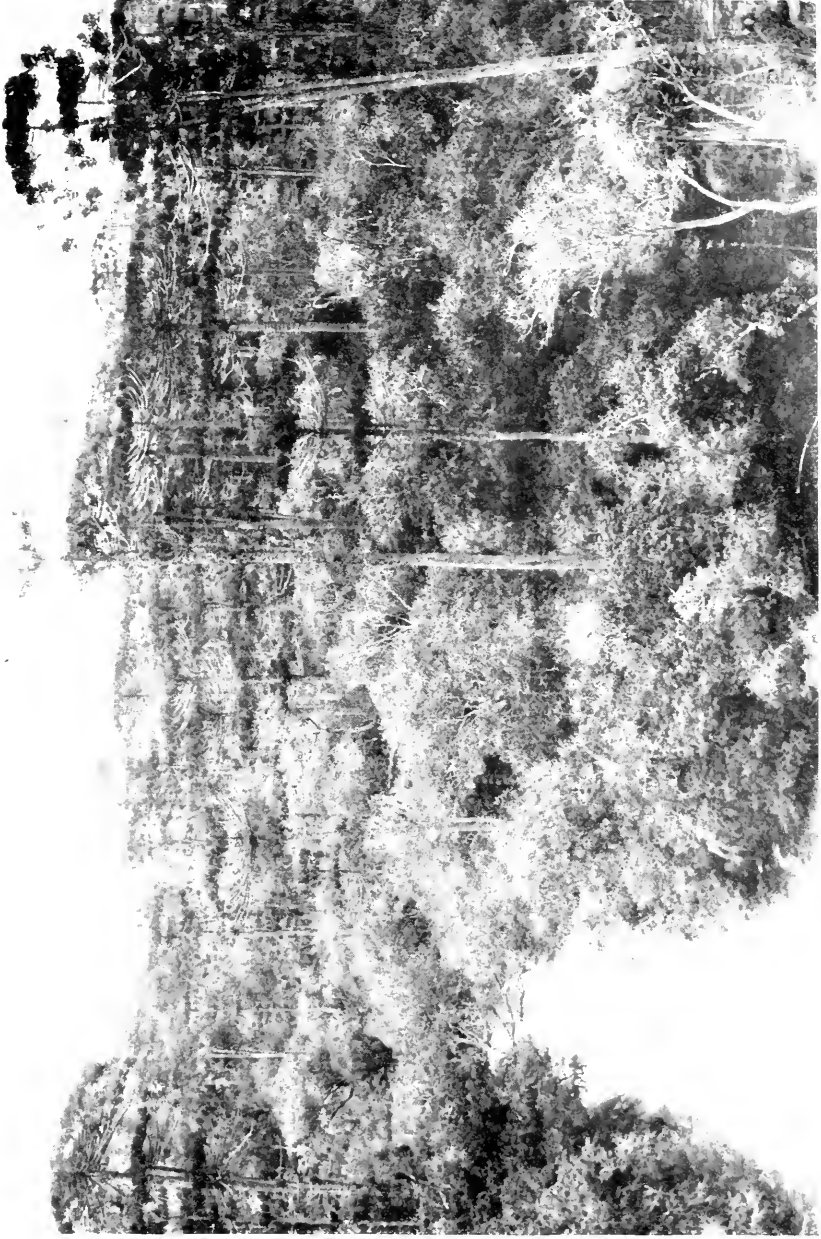
SPECIMENS OF FOREST GIANTS.

On the right is a specimen of Parana pine (*Arancaria brasiliana*) and on the left the *embuia* (*Nectandra sp.*), one of the most valuable hardwoods of southern Brazil, growing in Santa Catharina, Brazil.

In the Tropics, on the other hand, the forests are mostly composed of many species of hardwoods. Only in parts of Mexico, southern Brazil, Honduras, Guatemala, Nicaragua, some of the West Indies, and the more temperate regions of Argentina and Chile do forests containing the so-called softwoods occur. The softwood or coniferous forests usually are found in pure or nearly pure stands of one and not more than three or four species, covering large areas. The amount of standing timber per unit of area is heavier than in hardwood forests. This, combined with the fact that the woods are lighter in weight, makes for cheaper logging and manufacture of lumber and less cost in transporting the same to the markets. The result is less expensive lumber, and consequently more of it used. Hardwood forests of temperate regions contain per unit of area a less amount of timber and more kinds of wood, some of which may not be marketable. The timbers are heavier, more costly to log and transport to market, hence the product is usually more expensive. The hardwood forests of the Tropics are more complex than those of temperate regions, though this complexity has been greatly exaggerated, because until recently their nature has been misunderstood. They nevertheless contain many more kinds of timbers, few of which are marketable at the present time. This adds greatly to the cost of production and makes the lumber higher priced and less used. Some idea of the more general use of the softwood lumber in the United States is shown by the fact that out of an annual consumption of some 35,000,000,000 to 40,000,000,000 board feet, only 15 per cent of it is hardwood. Here softwood lumber enters into all sorts of general construction work and into many classes of manufactured articles. While hardwood lumber, on the other hand, can and is used like softwoods, it is more generally consumed for special purposes. In tropical America and in the Tropics in general the relative proportion of the use of hardwoods is much greater than softwoods. Nevertheless the great markets of the world consume much more softwoods than hardwoods. This should be remembered when considering the introduction of tropical hardwoods into the United States and Europe in larger quantities than at present.

PRESENT FOREST CONDITIONS IN LATIN AMERICA.

Before considering the possibilities of tropical woods playing a more important rôle in the lumber markets of the United States, we must first consider the present condition of the forests in each of the southern Republics and European colonies. Not all of these political units are equally blessed with large stands of timber, and hence always will be more or less dependent on outside sources for their lumber supplies. Among those nations that are in this condition, the one that stands out above all others is the Republic of



A FOREST OF PARANA PINE.

A virgin forest of Parana pine, with an undergrowth of hardwoods, among which are *amburina*, *canella*, *cedro*, etc., in Santa Catharina, Brazil.

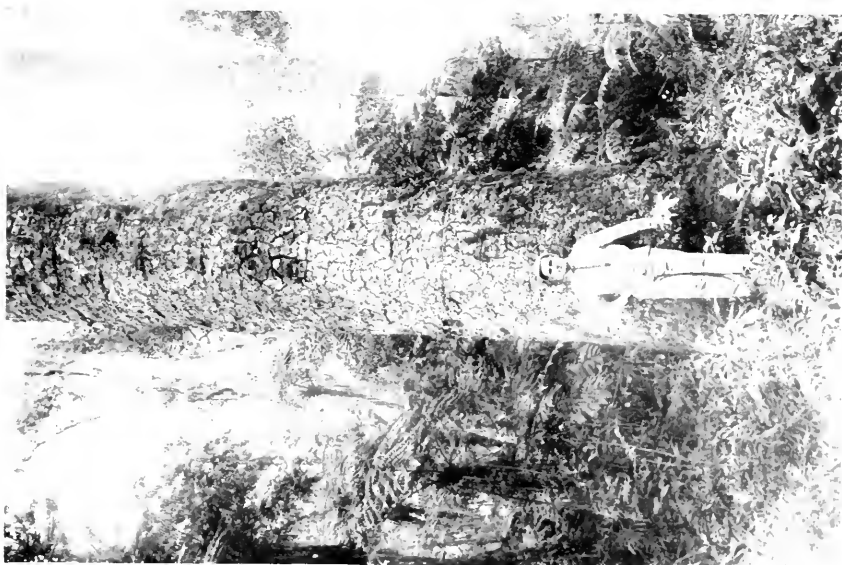
Uruguay. It is as devoid of natural forest growth as the State of North Dakota. Practically all the timber used in this country comes from overseas or from neighboring countries. The Republic of Argentina, while blessed with large areas of quebracho, a very valuable tannin wood, and containing a large area in forest growth, can not be said to have great wealth in forests. It is true that in the Territory of Misiones, in some of the more northern parts, and along the slopes of the southern Andes of Patagonia, there are forests, yet Argentina as a whole is not self-sufficient in lumber. While her lumber industry is fairly well developed and could yield more for local consumption than it is doing at present, it nevertheless imports nearly 10 times as much foreign construction lumber as its domestic forests furnish.

Chile, like Argentina, can never be self-supporting from her natural forests. Although the southern end of the long narrow country is well forested with mixed beech and some conifers, great inroads for purposes of agriculture have been made in the northern and most accessible part of this forest, and Chile must depend on imports, in part at least, to meet her increasing needs.

Thus the whole southern end of the South American Continent and in some respects the most industrially developed, can not be expected to furnish a sufficient amount of construction timbers for local use, and hence will have no supplies for export.

Bolivia and Peru have large areas in forests, but these lie in the lowlands of the headwaters of the Amazon and are at present inaccessible to the industrially active centers of the Andes and Pacific coast. Some day these forests may be reached by railroads, but the long uphill haul will be a serious handicap and will undoubtedly retard the rapid development of them. They nevertheless can be considered as great reserve forests and may yield lumber in large amounts. For the present, however, we must add Bolivia and Peru to the three southern nations which do not contain supplies of timber sufficient for their own use.

The parts of the forested area in Colombia and Ecuador that lie in the drainage basin of the Amazon must be placed in the same class with those of Peru and Bolivia; but these two countries are better favored in having more accessible forest regions—Ecuador on the Pacific coast and Colombia both on the Pacific coast and along the drainage basins of the Magdalena, Sinu, and Atrato Rivers, all of which flow into the Caribbean Sea. While Ecuador has furnished timber products to her less fortunate neighbors to the south, yet amounts thus exported have been almost negligible. Small quantities of Spanish cedar and mahogany and other woods have been shipped from Colombia. As in Peru and Bolivia, the industrially active population of Colombia and Ecuador resides in the higher



TREES OF SANTA CATHARINA, BRAZIL.

To the left is the Parana pine. Palms and thickets of bamboo constitute the undergrowth, together with tree ferns. To the right is a cedro or Spanish cedar (*Cedrela sp.*) in the Parana pine forests. Species of this genus are found from Mexico to Argentina, and the wood is known in most of the markets. Large quantities are consumed annually in the United States for making cigar boxes.

altitudes. The timber resources are mostly on the lower slopes of the Andes and in the river valleys.

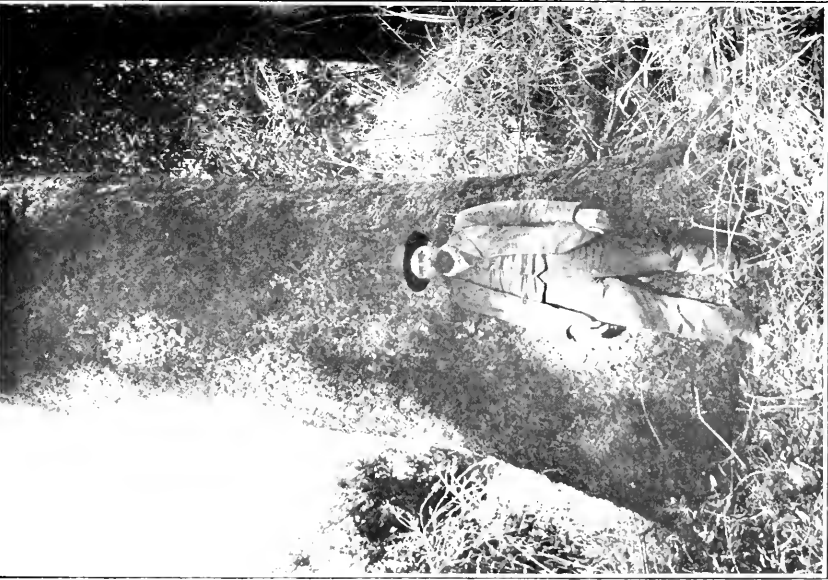
Venezuela has a large part of her area covered with forest growth of some kind, but a considerable portion of the easily accessible part of this so-called forest area is really brush-like in character, so that the stand per acre is not heavy. The lowlands at the head of Lake Maracaibo, the neighboring foothills of the Andes, patches of good forests in the coastal mountains, and the remoter parts of the Guiana highlands contain the heaviest stands. While for many years Venezuela has been furnishing small quantities of special kinds of timber, formerly mostly to Europe, of later years to the United States, the amounts have been insignificant and form a very small part of her export trade.

The Guianas are heavily forested, probably more so in proportion to their areas than any of the other political units under consideration. Being colonies of European countries they have long furnished considerable supplies of special kinds of timber to the mother countries. With the exception of greenheart from British Guiana, which was largely used in the construction of the Panama Canal because it is a first-class timber for salt-water construction, the United States has benefited only slightly from the lumber originating in the forests of these countries.

Generally speaking, original forests of the numerous islands of the West Indies have been greatly reduced in area. This is true of easily accessible timber. An exception should be made of the island of Haiti, especially the Dominican Republic part of it. Here there are said to be large areas of original forests left. The Porto Rican forests are nearly gone. Those of Cuba and Jamaica have been cut over mainly to make way for agricultural development but some still remain in the mountainous region, which, with proper management, could be made to yield continuous crops of timber. The smaller mountainous islands of the Lesser Antilles, all colonies—of the European nations—have little original forest vegetation left.

What has been said of the West Indies is also true of the Central American republics but to a lesser extent. While vast areas have been deforested there still remain some large forested regions, especially near the north coast. This is true of Panama and Nicaragua, parts of Guatemala and Honduras. British Honduras still contains a large part of her area in forest. While formerly the West Indies were the main source of American mahogany, Central American Republics from Nicaragua west (including British Honduras) and southern Mexico, supply most of it to-day.

Southern Mexico and the west coast nearly to Lower California contain large areas in tropical forest. The forest of the highlands of the central part and in the more mountainous of the desert-



Courtesy of Dr. Luis Popelure, editor of *Zoología*, Santiago, Chile.

SOUTH AMERICAN TREES.

At the left is a specimen of the laurel (*Laurelia aromatica*), which derives its botanical name from the fragrance of its leaves. It grows to a great height and its wood is very hard and brittle. It is used extensively in Chile because it is very plentiful and easily worked. To the right, the lingue (*Persea lingue* Nees), another species of laurel. Its bark is used for tanning hides, and its wood, which has a grain varying in color from yellow to dark red, is extensively employed in the manufacture of furniture.

like regions bordering the United States contain forests of conifers and oaks. Mexico undoubtedly has sufficient timber of her own of all kinds to supply her needs, and some for export, if properly developed.

The Republic of Paraguay is said to be heavily forested. Argentina, its nearest natural market, is at the present time drawing on these forests for a large supply of her hardwoods, and will probably absorb all that can be produced.

Of all the Latin American Republics Brazil is most blessed with timber resources. With an area larger than that of the United States (excluding Alaska), and with nearly 60 per cent of her area enjoying a climate favorable to forest growth of some kind, and with about 40 per cent of the total area still in virgin forests, she stands preeminently the foremost nation of the world in potential forest resources. The Amazon basin alone (including the portions of it in the Republics of Bolivia, Peru, Ecuador, and Colombia) is estimated to have much more standing timber than the whole of the United States; probably the Brazilian portion of it alone has as much as the North American Republic. In addition, and more important because nearer the present industrially active regions of the country, there are two other comparatively large forest areas—one a large hardwood forest near the coast, especially that part of it in southern Bahia, Espirito Santo, and extending back into neighboring portions of the Minas Geraes. The other is the Parana pine forests in the plateau region of the States of Parana, Santa Catharina, and the northern part of Rio Grande do Sul. A small tongue of this latter extends into the State of Misiones in Argentina.

THE LUMBER INDUSTRY.

The above is a hasty survey of the general forest conditions of the Latin American countries. Some of these countries have large possibilities for the utilization of the lumber products, others are less fortunate in not having a climate favorable to development of large areas of heavy stands of timber. In still others heavy inroads have been made on the forests, not so much for the timber they contain, but for raising crops.

In general, the economic conditions in tropical America have not been favorable to a high development of the lumber industry. This is enhanced by the fact that the hardwood forests have many kinds of timber only a few of which have a market value at the present time. Many forests in the Tropics are logged where the marketable kinds constitute only one to three trees to the acre. There may be as many as 30 trees on this same acre large enough to produce lumber, but most of them are practically valueless at the present time. Obviously it would not pay to put in modern steam logging to extract



A SPECIMEN OF COLOMBIAN MAHOGANY.

The *Curatiana pyriformis*, generally called *albarco* or Colombian mahogany, is not a member of the true mahogany family but belongs to that of the Brazil nut.



TRANSPORTING BOARDS IN COLOMBIAN FORESTS.

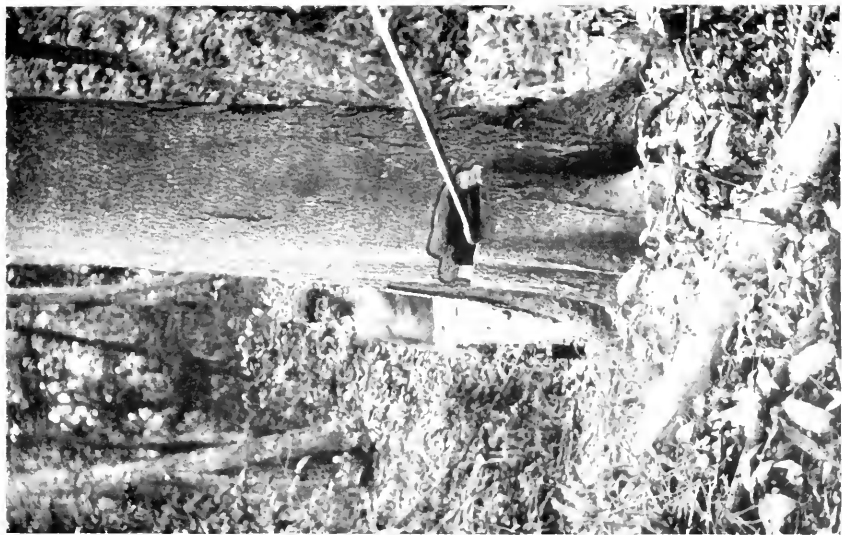
Bullock carrying cedro boards, which are hand sawn in the Colombian forests. Whipsawed boards are often transported long distances by methods similar to this.

the useful trees. Hence, the logging must be done by hand or animal power, only by the former where labor is plentiful and cheap. It means that to get out any quantity of lumber a very large area has to be covered. This limits the distance from transportation facilities like railroads, navigable or drivable streams, in which the logging operations can be carried on, for it would not pay to build railroads to tap forest regions that had only one to three exploitable trees to the acre. The result is that under present conditions very little timber reaches the market, and being scarce the price is high. The per capita consumption of lumber is very much lower in tropical countries than in temperate regions. The middle and poorer classes use little of it. The climate favors them in this respect, for they do not need substantial shelter to protect them against the rigors of winter. Thus throughout the whole of tropical America we find a poorly developed lumber industry. Many parts are rich in forests but poor in the lumber products of the forests. When a new railroad is built through a forest region the usable species of trees adjacent to it are soon extracted. With exceptions to be noted later, the result is that there is no well-organized effort to log timber on a large scale as is done in the United States. The trees are cut, sometimes squared, sometimes hand-sawn in the woods, and in other instances left in the round. They may be dragged by animals to the nearest local market for use, or to a drivable stream, or to the nearest railroad, from which depositories the cost of transportation to the large industrial markets is excessively high. In the larger cities the sawmill industry is much better developed; it at least is far in advance of the present crude logging methods in vogue. As a rule, the existing sawmills can handle easily all the material that reaches them, but such would not be the case were the logging output greatly increased.

With the recent influx of great numbers of foreigners and foreign capital many parts of tropical America experienced an industrial awakening. This meant a greater use of lumber. The well-organized lumber industries of the United States, especially where an oversupply of manufactured timber cheapens the cost to the consumer with less profit to the operator, took advantage of the demand in these markets and met that which the poorly developed local industry could not supply. Hence as there was a sufficient supply of the imported lumber on the market, the need for a greater development of the local lumber industry was not felt.

When the war practically cut off the importation of lumber into the Latin American Republics, because of lack of ships to transport it, the local lumber industry was greatly stimulated in many parts.

What happened when the Latin American Republics found themselves cut off from supplies of lumber from the Temperate Zone? In



WORK IN THE FORESTS OF ESPIRITO SANTO, BRAZIL.

To the left: A native cutting a tree of *Gouape alta* (*Castanea sp.*) in the forests of the Rio Doce, Espírito Santo. Woods similar in structure and belonging to the same genus, but with different names, occur in many parts of the forests from Mexico to northern Argentina. To the right: Logging hardwood timbers in the Rio Doce region of Espírito Santo.

spite of the crude methods of logging and transportation in many countries the output from the forests was at least doubled. Nevertheless the actual amount of lumber, including the imports, put on the markets was probably not as great as it was before the war. A striking example of what the possibilities might have been was shown by the activities in the Parana pine region of southern Brazil. This region above all others throughout the Latin American countries had a better organized lumber industry, whose beginning dates back to a decade or more before the war. Scattered along the single main railway traversing the States of Parana, Santa Catharina, and Rio Grande do Sul in a general north to south line and along some branches that connect this line with the coast at two or more points were a large number of small mills operating in the pine forests that are found in these three States. Among these was one large mill equipped with practically all modern improvements, including logging railroads and steam logging; in a word, well-organized methods of cutting and handling the lumber from the woods to the loading of the finished product on the cars to be transported to markets. Before the war the product of these mills met with great competition from imported lumber, especially in the seaport towns from Bahia to Buenos Aires. A four years' average of the lumber annually consumed in Brazil before the war was as follows:³ Imported, 60,000,000 board feet; Parana pine, 47,000,000 board feet; domestic hardwoods, 54,000,000 board feet.

Stimulated by the absence of imported woods during the war, the Parana pine region greatly increased its output. A rough estimate by the writer of the cut made in 1918 was at least 150,000,000 feet, or three times as much as before the war. Then practically all the mills were running at the capacity of the railroads, traversing the region, to handle the finished product. Large shipments were exported to Uruguay and Argentina, and the demand, both domestic and from the neighboring Republics to the south, exceeded the output. It is important to note that the one large mill in this region was cutting nearly one-third of the total. That the Parana pine region has maintained its position in this respect is shown in part at least by the fact that before the war the annual exports of the United States, mainly into Brazil, Argentina, and Uruguay, was in excess of 500,000,000 feet, whereas in 1919 the total exports from the United States to all three of these countries amounted to only 139,000,000 feet, of which Brazil took 1,000,000 feet, in contrast to 54,000,000 feet before the war.

It is believed that if the lumber industry of the Parana pine forests is properly developed it can supply all the softwoods needed by

³ See Simmons, R. E. Lumber Markets of the East Coast of South America. Special Agents Series No. 112. Bureau of Foreign and Domestic Commerce.

southern Brazil and the neighboring countries, comprising at present the most industrially developed portion of South America and containing more than one-half the population of the entire continent. The region is strategically situated to play this important rôle, for it lies between the great consuming centers of Brazil on the north and those of the nonforested Republic of Uruguay and parts of Argentina on the south. The standing timber of Parana pine forest in this region is roughly estimated by the writer to be not less than 200,000,000,000 board feet. What happened in the Parana pine forests occurred to a lesser extent in the magnificent hardwood forests in the coastal region to the north of Rio de Janeiro. When the writer in 1918 visited the forests of the Rio Doce in Espirito Santo he found great activity in the industry. Had the region been equipped with adequate facilities, including steam logging, saw-mills, and better railroad transportation, it is believed that the output could have been greatly increased. It is true that many economists do not believe that tropical forests, because of their mixed character, are adapted to being logged by steam power—the so-called donkey engine of the logging industry.

In many places in the American Tropics the forests the writer has seen contain heavy stands of valuable woods, many of which, if placed on the market in large quantities and a continuous supply assured, would be marketable. Many of these have local uses, but the present cost of removing them by crude methods prohibit their more general use. Only the best can be taken under present methods of logging. The writer bases his assumption that tropical hardwood forests can be logged by improved methods, not on theory, but because he has seen in the Philippines the prejudices against the introduction of such methods overcome. With improved methods the output of the lumber in the Philippines has been so increased that the islands have not only become self-sustaining, but are exporting more timber annually than they import. In spite of the distance, more timber found its way to the United States from these islands in 1919 than from many of the Latin American countries that have as much or more standing timber and in as heavy stands per acre as do the Philippines. Profiting by the success of the comparatively well-organized lumber industry in the Philippines, a British firm has recently invested nearly \$1,000,000 in a modern milling and logging plant in British North Borneo, and the British Indian Government is at the present time training young Englishmen in the United States in the modern methods, with the view of introducing them into those parts of the Tropics under their control that still have heavy stands of hardwood forests. A beginning has been made, and it remains for the future to decide to what extent tropical woods will find their way in much larger quantities into the lumber markets of the world.

From the above it is shown that before those countries of tropical America still possessing large forest resources can expect to export lumber in large quantities, they must first become self-sustaining or nearly so. To become self-sustaining they must introduce better organized and more modern methods of logging and milling. In this way the so-called inferior species that the forests contain and which are not at present much used could be placed on the market at a price that would allow them to compete with the imported lumber for common construction purposes. This is exactly what occurred in the Philippines after modern methods were introduced. With the increased production, larger amounts of the finer



LOGGING IN THE FORESTS OF PARANA PINE.

Showing the method of steam logging in Santa Catharina, Brazil.

and more expensive woods would find their way into the markets, perhaps more than enough for home consumption, and at a lower cost of production.

Up to the present time the United States has drawn on the American Tropics for the gold nuggets of the forests, mainly cabinet woods, of which two-thirds of the imports are mahogany, and small quantities of other woods for special purposes; in a word, such woods as do not occur in our own forests. Forest economists are drawing attention to the serious shortage in lumber the United States is facing. This is especially true of hardwood forests. Their prediction is borne out by the fact that the price has greatly increased in the last few years. This is not wholly due to war conditions. It means that many of the woods that occur in the American Tropics



A BRAZILIAN SAWMILL.

This shows a modern sawmill in the Parana pine forests near Santa Catharina.

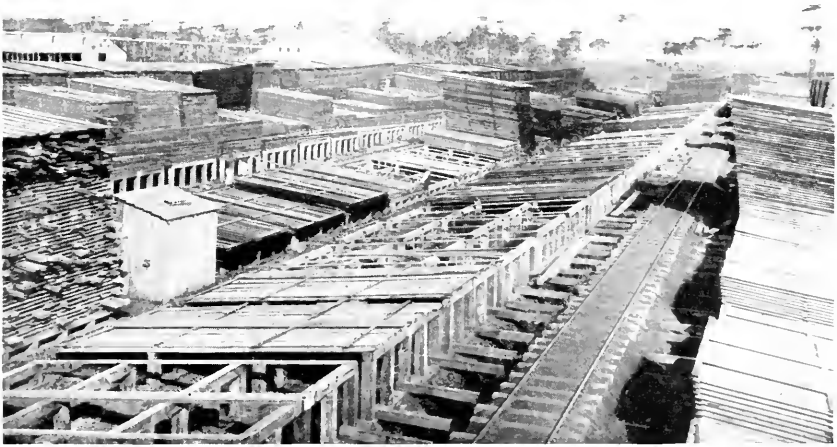
would be consumed in larger quantities if they could be placed on the markets at a price that would be near that of the local woods of the United States. The need will not be for the gold-nugget woods of the American Tropics that have very special uses, like rosewood, cocobola, satinwood, snakewood, and a score of others, but for the woods that can be successfully substituted for our own hardwoods, like oak, maple, beech, ash, walnut, gum, tulip, etc.

Generally speaking, most of the frame houses in the United States are not built of such woods as the Tropics can furnish, but a comparatively large percentage of our hardwoods is used for exactly the same purposes in which the greatest consumption of similar local woods are used in the Latin American countries. This is for interior work of all kinds, like flooring, staircases, railing, interior trim of all kinds, doors, window frames, etc.; all sorts of fixtures for stores, like counters, show cases, trimmings for show windows, etc. Thus woods like cedro or Spanish cedar (*Cedrela* sp.), which is found in the forests from Mexico to Argentina, and which occurs in every local market no matter how small, could be used successfully for some of the purposes cited above. Peroba (*Aspidosperma* sp.), one of the most abundant woods in some of the markets of southern Brazil, especially Rio de Janeiro, though unlike our oak, might become a promising competitor with it for certain kinds of interior construction. Embuia (*Nectandra* sp.) found fairly abundant in the pine forests of Brazil, and botanically related to a species known as *canellas* in parts of Brazil, and laurel or a host of other names in other parts of the Tropics would be well received in the United States, but not at gold-nugget prices. In this group belongs the *comino* of the Medellin district of Colombia, which enters into all sorts of construction work in the region near that city.

Stretching from the mouth of the Orinoco River through the Guianas to, and including the Amazon, and abundant in certain types of forest, is the crabwood (Guianas) or *andiroba* (Brazil), known scientifically as *Carapa guianensis* and related botanically to the mahogany, which ought to be better known in the markets of the United States, not so much for the furniture qualities for which it is advertised, but for interior trim such as described above.

While mahogany is the best known of all tropical woods, and enters largely into furniture, it constitutes but a small part of the wood that is consumed for that purpose in the United States, simply because it is still too expensive to be used generally. The mahogany logging operations in Mexico and Central America and to a less extent in the West Indies are better organized than any other similar industry in the American Tropics, and fully two-thirds of all the timber imported into the United States annually is of this wood. Yet in the forests that contain it there are not more than two trees of mahogany to the acre, and while there are still large areas in which

this wood occurs the supply is each year getting more and more inaccessible. Growing with it and in the forests that do not contain this valuable wood are other species which are more abundant and which are used locally. Some of these, if introduced into the United States in large quantities, would undoubtedly find acceptance in the furniture industry as a substitute for the local hardwoods and even for mahogany. In the forests that contain mahogany in Guatemala and Honduras the writer found a number of woods that are more abundant than mahogany. One tree, especially, known locally as Santa Maria (*Calophyllum* sp.), was



A LUMBER YARD AT SANTA CATHARINA, BRAZIL.

This shows the lumber yard of a modern sawmill in the Parana pine region.

found to be much more abundant than mahogany. Under this name and that of *galba* in other regions this wood occurs throughout Central America and parts of the West Indies. Another wood closely resembling it and belonging to the same genus is a constituent of certain types of the Amazonian forests under the local name of *jacarouva*. These and many others might be used for interior construction work or for furniture.

In the United States considerable quantities of hardwoods are used for many parts of vehicles of all kinds, spokes for automobiles and wagons, hubs, felloes, wagon beds, etc. Many parts of the different classes of agricultural machinery also require wood in their construction and throughout the American Tropics there are a number of timbers that are sought and used locally for these pur-

poses. Possibly if these woods were better known in the United States they would find a steady market.

The United States uses annually some 150,000,000 railroad ties. In 1919 she exported to seven Latin American Republics about 1,000,000 ties, of which 800,000 went to Mexico and Cuba. The American tropical forests contain large quantities of different woods that will last 10 to 12 years or more, untreated, in severe tropical conditions. Such woods in temperate climates would undoubtedly last much longer.

A 1918 publication of the United States Bureau of Agriculture estimates that the woodworking industries of the United States use approximately 24,000,000,000 board feet of wood annually. Of this amount only 87,000,000 board feet, or less than four-tenths of 1 per cent, was imported from tropical regions the world over; and in this connection it may be stated that only a few of the many purposes to which tropical woods might be used in the United States as substitutes for the native grown stock are mentioned in the foregoing text of this article.

The introduction of new woods into the markets of the United States is not an easy proposition. It is not within the scope of this article to describe the difficulties to be overcome in this campaign. Suffice it to say a business organization, after it finds one or more woods that will be acceptable to the market, will want to be assured of a continuous supply. This means much original investigation in the forests that contain standing timber of the species desired. Such an organization will also want to know what percentage of the total stand of timber is likely to find a local market, and all the engineering problems necessary to logging, milling, and transportation to tide water. In a word, a thorough understanding of all the economic problems connected with a successful business on a large scale will be necessary.

SUMMARY.

1. The Latin American Republics so far as their timber resources are concerned can be divided into two general classes—viz, those that have more than a sufficient amount to meet their own needs, and those that have not.

2. The present condition of the lumber trade between the United States and the southern American Republics is eight to one in favor of the first-named Republic.

3. This is due in part to the mixed character of the tropical forests, and more to the fact that the economic conditions are not yet ripe for a more modern development of the lumber industry in the Latin American Republics.

4. The growing scarcity of lumber, especially of certain classes, in the United States, predicted by forest economists and shown in the rising prices of lumber, means that certain wood-using industries

may have to seek timber from the outside. Some of the Latin American Republics contain in their forests woods that might be introduced into the United States to supply the lack of lumber heretofore furnished by the native woods.

5. Before tropical American woods can be introduced on a larger scale than at present there must be a campaign of research and education and a decided improvement in the methods of lumbering in tropical forests.

INTERNATIONAL CONGRESS OF AMERICAN HISTORY

GENERAL REGULATIONS have been issued for the holding of the International Congress of American History, which is to meet in Rio de Janeiro September 7, 1921, under the auspices of the Brazilian Historic and Geographic Institute, in commemoration of the first centenary of the independence of Brazil. The organization of the congress is intrusted to an executive committee composed of members appointed by the institute: heads of missions and consular chiefs representing Italy, Spain, and Portugal in Brazil; an official representative of the Pan American Union; and such persons as may be proposed by the governing board of the congress and accepted by the committee.

All the independent and colonial governments of America will be requested to appoint regional committees, intrusted with work relating to the congress in their respective countries.

Besides promoting the intellectual approximation of the countries of the continent, the congress has for its specific object the assemblage of elements and the elaboration of agreements for the writing of the general history of America down to the end of the nineteenth century.

The work of the congress will be divided among 30 sections, one of which will be in charge of the general history of America, while the remaining 29 will devote their attention to the several political divisions of the continent.

Each section is composed of subsections, which deal with the various aspects of the matter embraced under the general title of the section.

The sections and subsections are made up of men who are well known for their scientific and literary accomplishments, the list being headed by the President of Brazil, Dr. Epitacio Pessoa.

RECENT ARGENTINE EXPORT STATISTICS

THE following statement of the chief Argentine exports for the year 1920 in comparison with the year 1919, by quantities and countries of destination, has been compiled from tables furnished by the National Statistical Office of Argentina and published in the Review of the River Plate.

[Tons are metric, equivalent to 2,204.6 pounds.]

	1920	1919		1920	1919
Wheat (tons):			Barley (tons):		
United Kingdom.....	1,341,026	323,063	Belgium.....	24,766	
France.....	858,451	217,928	United Kingdom.....	8,810	9,176
Belgium.....	473,150		Netherlands.....	1,875	100
Netherlands.....	307,547	372,779	Germany.....	1,729	
Spain.....	259,281	247,729	Brazil.....	930	1,884
Brazil.....	199,720	290,924	France.....	94	2,019
Sweden and Norway.....	189,078	147,972	Spain.....		1,324
Italy.....	76,595	137,802	Italy.....		2,484
Germany.....	65,523	11,853	On orders.....	4,159	12,496
United States.....	23,134	2,520	Other countries.....	8,513	3,665
Denmark.....	16,591	37,145	Total.....	50,876	33,148
On orders.....	1,027,447	1,053,909			
Other countries.....	192,415	414,635	Flour (tons):		
Total.....	5,029,958	3,258,259	Brazil.....	36,756	151,239
Maize (tons):			Sweden and Norway.....	25,865	40,825
United Kingdom.....	962,821	526,150	United Kingdom.....	7,515	4,651
Netherlands.....	315,970	161,329	Denmark.....	7,124	4,008
Belgium.....	299,650		Belgium.....	4,640	
France.....	263,390	204,302	Italy.....	4,391	6
Germany.....	237,857		Netherlands.....	4,128	13,405
Denmark.....	203,265	147,139	Spain.....	3,031	3,100
United States.....	179,305	265,642	Germany.....	2,168	
Sweden and Norway.....	178,191	167,920	France.....	996	675
Spain.....	150,858	8,838	United States.....	666	
Italy.....	72,063	39,357	On orders.....	18,002	34,814
On orders.....	1,372,890	489,993	Other countries.....	57,689	23,546
Other countries.....	151,496	289,051	Total.....	172,971	276,269
Total.....	4,387,736	2,374,721	Quebracho logs (tons):		
Linseed (tons):			United Kingdom.....	36,920	3,360
United States.....	543,759	373,039	Italy.....	11,357	6,925
United Kingdom.....	177,949	135,278	Sweden and Norway.....	2,575	1,687
Netherlands.....	88,148	74,894	France.....	2,500	
Belgium.....	42,328		Germany.....	1,879	
Sweden and Norway.....	39,373	27,078	United States.....		38,760
Denmark.....	27,745	22,879	On orders.....	1,276	
France.....	11,573	30,148	Other countries.....	75	532
Germany.....	14,480		Total.....	56,582	51,264
On orders.....	52,544	118,341	Quebracho extract (tons):		
Other countries.....	13,941	58,615	United States.....	47,495	52,065
Total.....	1,004,840	840,272	United Kingdom.....	19,257	38,451
Oats (tons):			France.....	17,305	19,959
United Kingdom.....	176,142	91,698	Italy.....	10,457	12,844
Belgium.....	41,687		Germany.....	7,863	
France.....	34,660	46,493	Belgium.....	7,349	
Italy.....	9,727	8,831	Brazil.....	3,626	1,566
United States.....	6,439		Sweden and Norway.....	2,017	11,771
Germany.....	6,070		Netherlands.....	1,308	4,541
Netherlands.....	2,075	7,992	Denmark.....	1,134	7,430
Sweden and Norway.....	1,470	20,634	Spain.....	699	4,832
Denmark.....	1,147		Other countries.....	4,356	19,129
On orders.....	115,852	124,716	Total.....	122,887	172,588
Other countries.....	8,966	27,986			
Total.....	419,537	331,350			

	1920	1919		1920	1919
Butter (tons):			Sheepskins—Continued.		
United Kingdom.....	9,093	10,533	Brazil.....	45	129
United States.....	2,057	1	Italy.....	.....	163
Italy.....	1,506	587	Other countries.....	200	58
France.....	1,244	2,669	Total.....	11,053	17,017
Belgium.....	539	.....	Goatskins (tons):		
Sweden and Norway.....	262	394	United States.....	550	1,871
Netherlands.....	197	75	France.....	158	197
Germany.....	93	.....	Belgium.....	12	.....
Brazil.....	30	.....	Germany.....	2	.....
Spain.....	17	141	Italy.....	.....	46
On orders.....	.....	57	Other countries.....	.....	66
Other countries.....	158	793	Total.....	722	2,180
Total.....	15,207	15,250	Wool (tons):		
Hay (tons):			United States.....	32,311	51,625
Brazil.....	124,195	4,945	France.....	18,498	37,802
United States.....	330	.....	United Kingdom.....	13,603	15,549
Other countries.....	3,522	.....	Germany.....	13,017	.....
Total.....	128,345	4,945	Belgium.....	10,439	.....
Calfskins (number):			Italy.....	4,942	8,810
United States.....	191,423	353,394	Netherlands.....	2,126	8,040
Germany.....	6,005	.....	Denmark.....	1,755	2,453
France.....	5,000	1,607	Sweden and Norway.....	265	3,319
Netherlands.....	2,000	2,830	Spain.....	110	1,010
Brazil.....	1,048	.....	Other countries.....	274	18,056
Spain.....	.....	19,720	Total.....	97,730	146,664
United Kingdom.....	.....	2,007	Hair (tons):		
Other countries.....	.....	6,476	United States.....	1,162	786
Total.....	205,471	385,034	United Kingdom.....	588	544
Dry oxhides (number):			Belgium.....	224	.....
United States.....	956,268	914,399	Italy.....	80	284
Italy.....	89,546	63,361	France.....	62	124
United Kingdom.....	86,617	90,219	Netherlands.....	55	38
Spain.....	79,172	274,954	Sweden and Norway.....	50	127
Belgium.....	45,211	.....	Germany.....	50	.....
Germany.....	13,994	.....	Other countries.....	22	131
Netherlands.....	33,820	61,633	Total.....	2,292	2,654
Sweden and Norway.....	18,619	21,700	Tallow (tons):		
France.....	15,450	13,825	United Kingdom.....	8,181	11,758
Denmark.....	6,320	1,054	Netherlands.....	2,814	3,848
Other countries.....	14,133	109,915	Belgium.....	2,137	.....
Total.....	992,160	1,587,002	United States.....	1,553	1,790
Salt oxhides (number):			France.....	1,494	4,811
United States.....	1,494,955	2,235,551	Italy.....	880	3,328
United Kingdom.....	238,298	592,824	Germany.....	724	.....
Sweden and Norway.....	132,994	288,216	Denmark.....	512	1,211
Germany.....	116,791	.....	Brazil.....	321	52
Belgium.....	63,891	.....	Sweden and Norway.....	191	1,872
France.....	31,712	77,633	Spain.....	66	251
Denmark.....	22,305	62,699	On orders.....	.....	653
Netherlands.....	18,225	53,101	Other countries.....	2,676	6,171
Spain.....	1,272	.....	Total.....	21,549	35,775
Italy.....	1,198	5,000	Frozen beef (quarters):		
Other countries.....	8,328	102,719	United Kingdom.....	2,886,311	2,492,375
Total.....	2,129,879	3,387,740	France.....	602,735	1,884,244
Horsehides (number):			Belgium.....	325,772	.....
United States.....	88,038	481,732	United States.....	113,286	.....
Germany.....	39,740	.....	Germany.....	89,958	.....
Netherlands.....	8,809	19,511	Italy.....	13,971	277,814
Italy.....	5,030	.....	Brazil.....	4,996	.....
Spain.....	2,161	2,000	Sweden and Norway.....	1,784	20,887
Sweden and Norway.....	200	200	Denmark.....	.....	.....
Denmark.....	100	.....	Netherlands.....	3,700	8,126
France.....	50	.....	On orders.....	499,069	280,317
United Kingdom.....	.....	6,009	Other countries.....	8,097	69,833
Other countries.....	.....	22,600	Total.....	4,519,679	5,033,596
Total.....	135,119	532,052	Chilled beef (quarters):		
Sheepskins (tons):			United Kingdom.....	619,390	74,598
France.....	7,110	9,540	United States.....	1,145	.....
United States.....	2,363	6,397	On orders.....	8,378	.....
United Kingdom.....	968	17	Total.....	629,213	74,598
Germany.....	217	.....		
Sweden and Norway.....	81	42			
Netherlands.....	66	671			

	1920	1919		1920	1919
Frozen mutton (carcasses):			Frozen lamb (carcasses):		
United Kingdom.....	934,969	1,120,143	United Kingdom.....	265,447	197,584
United States.....	84,666	19,636	United States.....	213,906	14,416
France.....	51,054	258,974	France.....	1,000	5,635
Belgium.....	4,383	.....	On orders.....	82,501	697
On orders.....	118,791	27,013	Total.....	562,854	218,332
Other countries.....	.....	79			
Total.....	1,193,863	1,425,845			

PERU AND ITS OIL FIELDS¹

By VERNON F. MARSTERS.

FROM time to time we may see brief descriptions of the mining industries of the Republic of Peru, particularly with reference to copper, silver, and gold, but rarely do we find any specific details in American or English journals concerning the petroleum fields of this picturesque Republic, the geological conditions, development in particular fields, the general character of the product obtained, or its natural markets.

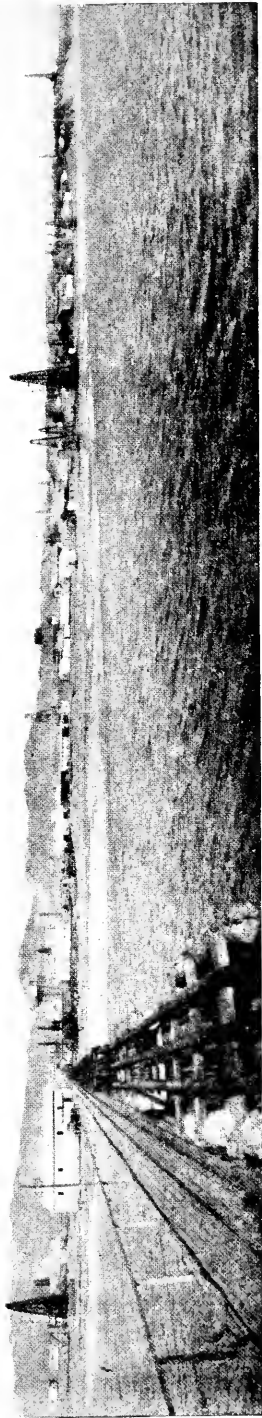
The intense search for new deposits of petroleum occasioned by the increased demand for refined products as well as crude petroleum, renders a brief statement on the petroleum fields of Peru and suggestions concerning its possibilities of interest to readers of the *Bulletin*.

Peru has been a producer of petroleum for many years. Its first real commercial production was obtained in the Zorritos field, in the Province of Tumbes, some time in the early seventies, under the management of Señor Faustino Piaggio, a well-known business man of Callao, Peru.

In the late eighties and early nineties the Negritos field, located in the northern part of the Department of Piura, was prospected by the London Pacific Petroleum Co. and soon became a producer of importance in Peru.

In both of these fields refineries were established and their products, mainly lubricating oils and kerosene, were sold in the South American Republics. In 1901, the Lobitos field, located about 20 miles north of Talara, became the scene of prospecting activity, under the direction of the Peruvian Corporation. By 1905 petroleum deposits of no small importance had been discovered. At this time the Lobitos field became the property of the Lobitos Oil Co. Under its direction an intense drilling campaign was started, with the result that pro-

¹ Reprinted from *Petroleum Age*, Chicago, April, 1921.



Courtesy of Continental (New York).

TWO VIEWS OF THE PETROLEUM ACTIVITIES OF LOBITOS, PERU.

The increasing demand for petroleum products has brought the Peruvian oil fields to the attention of the world. Upper picture: Lobitos; and the method used for piping oil from the shore to tankers anchored in the bay. Lower, a view of the seashore and the region of Lobitos. The proved area of this field is about 25 square miles and it ranks second in importance of production in that country.

duction was greatly increased and bid fair to rival its Negritos neighbor on the south.

About 1912 a new company, known as the Lagunitas Oil Co., acquired part of the original concession of the London Pacific Petroleum Co. (4 square miles). This company in a short time became a producer and helped to increase materially the total annual production shipped from the Negritos area.

There is one other area in Peru where petroleum has been produced in commercial quantity. This section is known as the Pusi or Pirin area and is located in the Department of Puno, bordering on Lake Titicaca, in the southern part of the Republic. This area was productive from time to time between 1906 and 1914, but we understand that there is no activity in the Pusi field at this time.

With the exception of the Pusi area the principal producing fields are confined to the Province of Tumbes and Department of Piura, both being in the northwest corner of the Republic. The Zorritos field is located in the Province of Tumbes, while the Lobitos and Negritos fields are located in the northern part of the Department of Piura. These fields occupy the shore edge of what may be called the coastal plain of northern Peru.

This geographic Province extends from the north border of the Republic to the south part of the Department of Lambayeque, a distance of approximately 550 kilometers. The greatest width is attained between Cerro del Yllescas on the shore line and Salitral or Morropon, small towns on the inner edge of the plain, the distance in a straight line being approximately 150 kilometers.

Topographically, the coastal plain north of the Chira River has been cut up by a network of valleys and subsequently veneered with wind-drifted sands. There are also smooth table-lands with scored edges overlooking the dissected plains between them and the shore line. These occur to the northeast of the Lobitos and Negritos fields.

South of the Chira River similar plains occur between Payta on the shore line and Sullana and Catacaos, interior towns. South of the Piura River there extends a lower and vast expanse of plain known as the deserts of Piura, Olmos, Sechura, and Morrope. The coastwise belt from Garita to the mouth of the Leche River stands but a few feet above sea level, the surface gradually ascending as we pass to the interior. Protruding through these plains along the shore line are a few outliers of the Andean Cordilleras. These make up the picturesque ridges of Silla de Payta and Cerro Yllesca.

Geographically, the northern coastal plain is made up of Tertiary sands and clays and local conglomerates, with a total thickness exceeding 4,000 feet. The formations have been recognized under three subdivisions, as upper, middle, and lower Tertiary. The oil and gas horizons are found in the middle and lower members. Much

of the upper Tertiary sediments has been removed by erosion. Such as remains forms the table-lands referred to above. This member varies in thickness from 40 to 60 feet.

The middle member is made up of alternating sands and clays, which, judging from an attempt at correlation of producing oil sands, are regarded as lenticular beds of large dimensions. This middle member may vary in thickness from 650 to 1,000 feet. The lower member is recognized from lithological data based on drilling records.

The Zorritos oil field was the first commercial producer in the Peruvian Republic. It is located approximately 40 kilometers southwest of Tumbes and on the coast at a point known as Zorritos. In 1907 the Zorritos Oil Co. began drilling activities and in 1914 was reported to have 48 or 50 wells producing. No fewer than three distinct sands were recognized between 194 and 1,660 feet. The deepest well that had been drilled up to 1914 attained a depth of 3,020 feet. In 1914 the company possessed 296 claims, but considerable new territory has been added to its holdings since then.

The Lobitos oil field is also located on the coast between Talara on the south and Cabo Blanco on the north. In 1907 the Lobitos Oil Co. had drilled 20 wells, of which 16 were producers. In 1915, fully 195 wells had been drilled, of which 115 were producers. In 1917 the company obtained production from 143 wells. In this field no fewer than four producing sands were known in 1914, varying in depth from 400 to 2,500 feet. The deepest well on which we have any information was drilled to 3,435 feet.

In 1914 the Lobitos Oil Co. possessed 4,120 claims. It has since acquired new territory in both Peru and on the coast of Ecuador, where a well was drilled to a depth of 2,000 or more feet.

The Negritos oil field is the largest producer of the three fields mentioned. In 1907 it possessed a total of 206 wells: in 1911 there were 297 wells producing; and in 1914 the number of producers was increased to 480. In 1917 the producing wells numbered 695, since which date no data have been made available. In this field seven sands are known, varying in depth from 300 to 3,000 feet. The deepest well on which we have information was drilled to 3,900 feet. This field has been operated by the London Pacific Petroleum Co. Its holdings cover 1,723 square kilometers.

About 1912 the Lagunitas Oil Co. was formed. It acquired 4 square miles of land, which was a part of the Negritos field, and in 1913 started a vigorous drilling campaign. In 1917 it had increased the total annual production of the Negritos field by approximately 392,000 barrels. The formation of a transportation company known as the West Coast Fuel Co. contributed to the rapid handling of the increased production.

Hacienda de Fernández-La Brieta is located in the valley of Mancora, about 25 to 30 kilometers from the coast. Around 1907 an

attempt was made to test for oil on the Hacienda de Fernández. The place at which the test was made is known as La Brieta. This well is reported to have been drilled to a depth of 455 feet. Four sands were found between 90 and 442 feet. No further testing has been reported.

Pirin or Pusi field can be reached from Mollendo, on the coast of southern Peru, via the Southern Peruvian Railroad to Juliaca, in the Department of Puno. The Pusi field lies 25 or 30 kilometers east and north of Juliaca, or between this town and the northwest coast of Lake Titicaca. The north end of Lake Titicaca is surrounded by what is known as the high plains. The formations of these plains constitute, in part at least, those entering into the Pusi or Pirin structure. They are Tertiary in age, at least in part.

According to available statistics, the Pusi field was a producer from 1906 to 1913. Its long distance from the coast and high cost of transportation have to date put the proposition out of the commercial class. In making the above statements it is not meant to imply that the above localities are the only ones in Peru where there are prospects of developing petroleum deposits; on the contrary, in southern Peru alone there are many localities in the interior where indications of petroliferous accumulations may be seen. Samples have been obtained from some of these seepages and impregnated sands, analyzed, and found to contain lubricating oils with small amounts of illuminating products.

From a perusal of the table below, showing the annual production of the present producing Republics of South America, it will be seen that Peru in 1918 was the leader by over 1,000,000 barrels, and in 1920 had increased the lead to a little less than 1,500,000 barrels.

Trinidad, the little neighbor of Venezuela, according to the statistics of the American Petroleum Institute, led Peru in 1919 by approximately 200,000 barrels, but in 1920 Peru again resumed its lead by more than 1,000,000 barrels.

Petroleum produced in South American Republics and Trinidad, West Indies.

STATISTICS FROM THE UNITED STATES GEOLOGICAL SURVEY, BARREL PRODUCTION.

	Peru.	Argentina.	Venezuela.	Ecuador.	Trinidad.
1918.....	2,536,102	1,321,315	190,000	125,000	2,082,068
1919.....	2,616,000	1,183,000	425,000	.....	1,841,000

STATISTICS FROM AMERICAN PETROLEUM INSTITUTE.

1919.....	2,551,000	1,504,300	321,396	.....	2,780,000
1920.....	2,790,000	1,366,926	500,000	.....	1,628,637

¹ Reported production of the well drilled by the Lobitos Oil Co., on the south coast of Ecuador. The production was shipped to Guayaquil and used as fuel.—Min. Res. U. S., 1918, p. 1157.

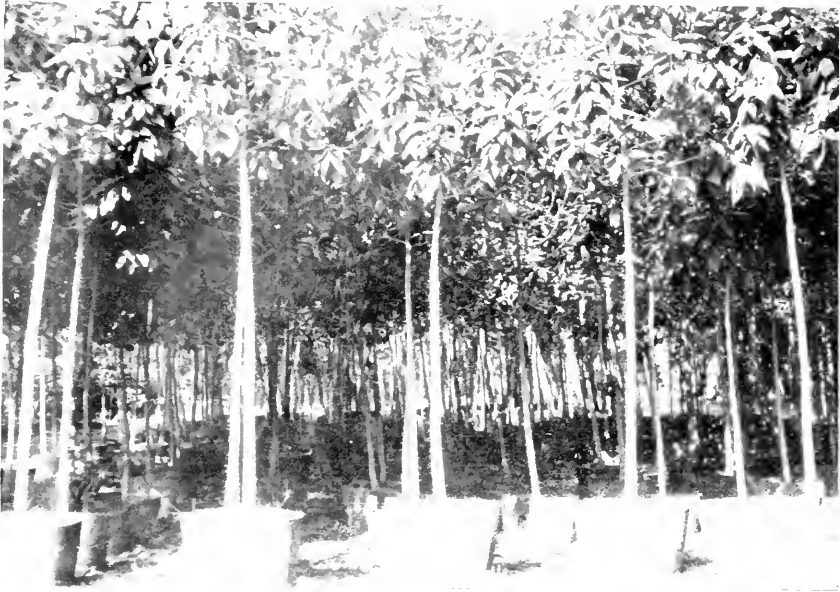
TWO USEFUL TROPICAL TREES

By C. D. MELL.

THE champaca tree is the *Michelia champaca* of the botanist. The generic name of this important plant commemorates Micheli, a celebrated Florentine botanist of the eighteenth century, and the specific term is one of the many local Hindoo names given to it in the tropical East, where the tree is native. There are a number of closely allied forms growing all over the Tropics, and some of the more distant relatives, like the magnolia and tulip tree, are found in the temperate climate. Although the plant group to which this tree belongs comprises many important species of trees, no other one has so enterprisingly distributed itself throughout the tropical regions of the globe as the champaca. In fact, it has become acclimated in the warmer parts of the north and south Temperate Zones, and it is now being cultivated in the Southern States, as well as in south Brazil. In India it grows at elevations of 5,000 feet.

The tree is an interesting one not only on account of the exquisite perfume its flowers yield, but also because of its beauty and usefulness and of the superstitious regard for it on the part of the Hindoos. There are few trees that are so well known in the Far East as the champaca, but its economic importance has largely been overlooked, like that of so many other tropical plant products. The tree lends itself readily to cultivation, and it has been found that by proper care and selection the perfume of the flowers may be greatly developed.

The reddish or pale yellow flowers are extremely fragrant and appear in clusters at the ends of branches. The individual flowers resemble an unfolded tulip, but they are more dainty in all respects, and have from the earliest times been in great request by ladies for adorning their heads, because the rich orange color of these flower clusters contrasts beautifully with their jet black hair. The very fragrant odor of the flowers is due to the presence of an essential oil, which is readily distilled, forming an industry of some little importance in India. This oil is sold under widely different names, as for instance, *paud*, *champa-ka-utter*, or *kecula*. Locally it is used as a hair oil when mixed with coconut oil. The macassar oil, which for many years has been so widely used throughout the East for anointing the hair and body, is coconut oil perfumed by mixture with the flowers of champaca and ilang-ilang and colored with



THE CHAMPACA TREE.

One of the most beautiful trees in the tropics, which is just beginning to become commercially valuable in Latin America. Upper picture: Young potted plants ready for transplanting. Lower: Showing the Brazilian Champaca in one of the parks of Rio Janeiro.

tumeric. This oil forms a standard article of commerce, and while it is somewhat too powerful to be used in the pure state, it often forms the base or one of the ingredients of different commercial perfumes prepared in this country and in Europe. The total annual importations of champaca oil into the United States are during normal years not over 500 pounds, selling at a price of about \$6 per pound.

Few trees are more interesting for ornamental planting than the champaca, which is found cultivated everywhere in the Tropics. A fine lawn or public park is not complete unless it has specimens of this well-known and elegant tree, which rarely attains large proportions, especially in regions outside British India and Burma, where it reaches the size of our magnolia and yields a timber that is highly prized for house and carriage building, as well as for cabinetwork and tea boxes. The trees are not generally cut down, as in certain parts of India they are highly venerated and have been dedicated to the god Vishnu. One of the local names of this tree (i. e., *Tulasi*) has been applied to one of the sacred champaca groves on the banks of the Yumuna River.

The tree has from the earliest times played an important part in the life and industry of the Hindoos. At a time now almost forgotten the champaca tree was used in place of the mulberry tree for feeding the muga silkworm; and records show that champaca silk was of the finest and whitest class worn only by the members of the royal house of Assam.

For essential oils used in the perfumery industry the United States is dependent largely upon foreign countries. It draws ilang-ilang from the Philippines, one of its insular possessions; sandalwood oil from India; amyris oil from Venezuela; and *petit grain* from Paraguay. There is a wide field for enterprise in the supply of such minor products, of which champaca oil is one. The tree can easily be cultivated in all the tropical possessions of the United States, where by a little thrift and industry sufficient oil could be produced to supply the needs of all western countries. Only a small part of the actual output of the oil produced by the crude methods of distillation in India is exported, for the local consumption there is very great. Little that is practicable could be learned from the Hindoos as to the proper method of gathering the blossoms and obtaining the essence of best grade. These are phases of the work which could best be determined by experimentation after the groves had been established. There are no figures on yield available, nor other data bearing on the cost of production.

One of the most curious vegetable substitutes for glass and earthenware for drinking cups and other domestic utensils in tropical America is the woody rind of the fruit of the calabash tree (*Crescentia cujate*). The name calabash is a corruption from the Spanish word "calabaza". Cups, mugs, ladles, bowls, basins, and, in fact, almost every article



THE CALBASH TREE.

Upon this remarkable tree grow the cooking utensils and ordinary dishes of the poor. This specimen was photographed near Santiago, Dominican Republic, and shows the almost ripe fruit.

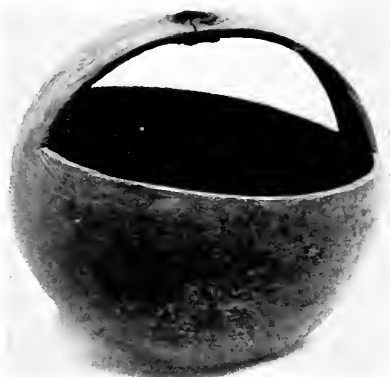
of household use, are made from them by the poorer classes in all parts of the Tropics. They are used also for saucepans or kettles in which to boil water, for the shell is hard, very tough, and not inflammable. They bear the fire several successive times without injury.

With, possibly, the single exception of the palm, there is probably no other tree in the Tropics that is so well known or so useful as the calabash. It is always the first tree to be planted when the squatter makes a clearing and builds for himself a new home. While the tree is wild and grows scatteringly throughout the open forests, it appears to thrive best around dwellings. It has no special requirements as to soil or site, and often grows under the most adverse conditions. The trunks are sometimes almost completely girdled by children playing with machetes or other tools, and yet the trees grow and produce fruit in great abundance.

It is not a large tree, as it rarely grows over 30 feet in height and from 10 to 15 inches in diameter. The trunks are invariably crooked and branch close to the ground. The tree can easily be distinguished by its peculiar habit of forming rather large and more or less horizontal branches, which bear small clusters of leaves at irregular intervals. The flowering buds arise principally from the larger branches near the main trunk.

The fruit varies in size and general outline on different trees, but may be described as round, oval, or even bottle-shaped, and by skillful tying the growing fruit can be made to assume almost any form. It is from an inch to 12 or even 18 inches in diameter, with a thin greenish yellow skin over a hard and woody shell. The pulp within consists of a pale yellow, soft, juicy substance, which is regarded as a valuable remedy for certain internal disorders.

When the fruit is ripe the pulp is removed, the hard shell is dried and reduced by scraping. It is used chiefly for drinking cups, called *cuyas* in Brazil. The small round cups hold from 1 to 4 pints, and the larger oval ones as much as 7 to 8 quarts. The Indians in Central and South America use them almost exclusively as drinking cups. The outside of these shells is often highly polished and ornamented by means of figures carved, engraved, or printed upon them. In this condition they are sold extensively to the northern travelers. The elaborately carved calabashes often bring several dollars apiece.



A BASKET MADE OF A CALABASH, 11½ INCHES IN DIAMETER.

AGRICULTURE, INDUSTRY AND COMMERCE

ARGENTINA.

EXPORTS OF GRAIN PRODUCTS FROM JANUARY 1 TO FEBRUARY 24.—Wheat, corn, linseed, and oats were exported from Argentina during the period from January 1 to February 24, 1921, to the amount of 727,200 tons, whereas in the corresponding period of 1920 the exports of these products amounted to 1,869,724 tons. The chief difference was in the amount of wheat shipped, of which 202,180 tons were exported in the present year, against 1,005,410 tons in 1920.

ARGENTINE PATRIOTIC LEAGUE COOPERATIVE MILL.—The general committee of the Liga Patriótica Argentina has instituted the foundation of cooperative societies in the local branches of the organization. The latest development along this line is the establishment of a cooperative mill with a capital of 100,000 pesos. The first series of 100-peso shares was entirely taken up by the agriculturists, colonists, and laborers. They have acquired a flour mill, which will be in operation before the coming winter season (July, August, and September).

WHEAT YIELD OF LUCAS MONTEVERDE, BUENOS AIRES PROVINCE.—The wheat raised in Lucas Monteverde, Buenos Aires Province, weighs from 80 to 82 kilograms per hectoliter, or 62 to 63½ pounds per bushel.

RENEWAL OF COASTWISE SHIPPING.—The Mihanovich Co. renewed its river passenger service on the Parana-Paraguay, Alto Parana, and Uruguay River lines on March 20. Steamers on the Paraguay-Parana lines leave Buenos Aires and Asuncion on Sundays. The Alto Parana line will be run in connection with the steamers leaving Buenos Aires, the steamer leaving Corrientes on Thursdays and Posadas on Sundays. The steamer on the Uruguay line will leave Buenos Aires on Sundays and Salto on Wednesdays, making the following stops: Nueva Palmira, Fray Bentos, Gualeguaychu, Concepcion del Uruguay, Paysandu, Colon, Fabrica Colon, Concordia, and Salto.

HISPANIC-ARGENTINE EXCHANGE Co.—A meeting of the Compañía Hispano Argentina de Intercambio was held for the election of a new board of directors. The interest of the King of Spain and of the Sociedad Rural Argentina in the growth of Hispanic Argentine commercial relations was evident at this meeting. Among different plans which the company has in view is the providing of inexpensive meat to the capital by means of the establishment of packing houses

in the Provinces of Entre Rios and Corrientes. The first shipment of Argentine products to Spain made by this company was sent the latter part of March on the *Kelter*, of the Lloyd Belge Real Line, and consisted of 500 bull calves on the hoof for beef, 5,000 tons of wheat, wool, tallow, hides, and other products.

REDUCTION OF MARITIME FREIGHT IN THE SOUTH.—The Compañía Argentina de Navegación decided to make a special freight reduction of 20 per cent. on shipments of wool, hides, bristles, and feathers consigned to the capital from Patagonia.

INDEMNIFICATION FOR ACCIDENTS INCIDENT TO LABOR.—The monthly chronicle of the National Department of Labor states that during 1920 the accident fund received in money 1,139,488.39 pesos in indemnification for deaths, partial disability, and permanent total disability. The total of compensation funds received since the passage of law 9688, in the Caja de Accidentes, beginning in 1916 and including 1920, amounted to 3,475,409 pesos. The largest amount paid out has been for deaths, making a total to this account of 579,856.32 pesos during the year. The payments for permanent total disability were small, being 18,737.50 pesos, while payments for partial permanent disability amounted to 540,894.75 pesos, compensation to 773 cases.

BOLIVIA.

BOLIVIAN COMMERCE THROUGH PORT OF ARICA.—Exports of Bolivia in 1920, through the port of Arica, consisted of 42,174 metric tons of merchandise, valued at 52,166,881 Chilean pesos, of the value of 18 d. each. The imports through this port during the same period aggregated 45,558 metric tons, valued at 29,940,881 Chilean pesos. These imports came principally from the United States, Great Britain, Germany, and Peru. The imports of Chilean or Chileanized goods in 1920 aggregated 16,737 metric tons, valued at 9,649,527 pesos. The exports of Bolivian copper through the port of Arica in 1920 consisted of 24,643 metric tons, valued at 5,271,142 Chilean pesos, nearly all of which went to the United States. There were also large exports of Bolivian tin, silver, and wolfram through the port of Arica, most of which went to the United States.

BRAZIL.

COFFEE.—Brazilian coffee interests anticipate increased exports of coffee to Italy, due to the abolishment by the Italian Government of the official monopoly of the sale of coffee in that country. The Czechoslovakian Government recently granted permission for the importation, within a period of six months, of 140,000 bags of coffee.

NEW NAVIGATION COMPANY.—The Pelotas Navigation Co. has been organized in the State of Rio Grande do Sul, with a capital of 500

contos, to operate a line of vessels between Pelotas and the city of Rio Grande and intermediate points.

RADIUM.—A deposit containing radium is reported to have been discovered in the interior of the State of Ceara by Prof. Diaz de Rocha, director of the museum at Fortaleza.

RECLAMATION PROJECT.—The improvement company for Rio de Janeiro lowlands (Empresa de Melhoramentos da Baixada Fluminense), with a capital of 10,000 contos, was recently organized, in accordance with a decree of December 30, 1920, to extend certain railways in the State of Maranhao and to reclaim a large area of land to the north of Rio de Janeiro.

STEAMSHIP SERVICE.—The Rotterdam South American Line has put in operation a semimonthly steamship service from Rotterdam, Hamburg, and Antwerp to Montevideo, Buenos Aires, and Rosario, as well as to Pernambuco, Bahia, Rio de Janeiro, and Santos. This line comes into direct competition with the British, French, and other Dutch steamship companies plying in the South Atlantic.

IMPORTS OF BLOODED LIVE STOCK.—The Brazilian Government announces that it will aid importers of blooded live stock for breeding purposes by refunding the freight charges from the country of origin to Brazil, allowing the animals to enter free of duty, and paying transportation cost of same into the interior of the Republic.

CEMENT FACTORY.—A large cement factory is to be erected at Belem in the city of Para by the Para-Ceara Co. It is planned to manufacture a special cheap cement for use in reclamation work to be carried out in the State of Ceara.

ITALIAN IMMIGRANTS.—According to an Italian estimate Brazil will receive during the present year about 30,000 Italian immigrants. Negotiations are reported to be under way concerning a treaty between Brazil and Italy covering this immigration.

GARBAGE PLANT.—The prefect of the City of Rio de Janeiro recently requested bids for the equipment of a garbage incinerating plant in the Federal District.

STEEL MILL.—The minister of agriculture, industry, and commerce of Brazil has authorized a local company to erect a steel mill equipped with electric furnaces. The importation of machines, motors, furnaces, and other necessary material may be made by the company for its own use for a period of 30 years. The company is also given the right to use waterfalls belonging to the Federal Government for the production of electric power.

CHILE.

FRUIT EXPORTS.—The first shipment of fruits from Chile arrived recently in New York in splendid condition and was disposed of at prices which brought an excellent profit for all concerned. Melons,

both cantaloupes and watermelons, which with peaches formed the bulk of the cargo, sold as high as \$6 each. Promoters of this first shipment have made arrangements for additional importations to the value of at least a million dollars. This new trade should be exceedingly valuable, since the summer in Chile corresponds with winter in the United States.

LEVELING OF SACRAMENTO HILL.—One of the most important mining projects in execution in the southeastern part of the Republic is the leveling of the Cerro Sacramento in Bisbee, State of Arizona. This hill, which contains about 40,000,000 cubic yards, will be entirely cut away in 16 years. It is estimated that approximately 25,000,000 tons of low-grade copper ore will be obtained. The operations are being conducted by an American company.

VEGETABLE MARKET.—Truck farmers of the suburbs of Santiago opened during the latter part of February a market for selling their products directly to the consumer.

NITRATE PRODUCTION.—During January, 1921, 4,170,268 quintals of nitrate were produced, of which 3,898,534 quintals were exported. The supply on hand in Chile is estimated at 28,600,000 quintals. The European supply is 20,728,537 quintals. (The Spanish quintal used as a unit is about 100 pounds.)

COLOMBIA.

CONTRACT FOR THE FURNISHING OF RAILROAD MATERIAL.—A contract has been let for 1,625 rails and 3,556 couplings to be used in the extension of the Ferrocarril del Tolima, the material being furnished, to avoid delay, by the Ferrocarril de Girardot.

MATERIAL FOR STREET RAILWAY.—The iron bridge has arrived for La América section of the Medellín tramway. The cars have reached Limon.

STORM DESTROYS BANANAS.—A heavy wind storm in the banana district of Santa Marta destroyed over 300,000 banana trees. The estimate of this year's crop is 10,000,000 bunches, having an approximate value of \$6,000,000.

SHIPPING REGULATIONS.—Vessels out of the port of Guayaquil may receive cargoes for exportation providing that the vessels have been fumigated and the crew is in good health. Vessels fumigated at Tumaco need not be fumigated again at Buenaventura.

GOLD AND SILVER MINES OF COLOMBIA.—The great placer mines of the Choco were formed by large deposits of the Post-Tertiary period. They are composed of clay, shale, sand, and a conglomerate. Near the junction of the San Juan and Sipi Rivers there are also 600,000 square meters covered with alluvial soil. The streams bring down gold continually, and the great tropical storms which uproot trees and turn the streams from their courses cause new

inundations, in which gold is washed down by nature's hydraulic process. Tons of sand are moved by the freshets, and the gold sediments are deposited in the river beds. Since the time of the conquest gold to the value of millions of pounds sterling has been taken from these sands, which are rich enough to pan. The upper sections of these two rivers are the richest in precious metal. The layer which spreads over the rock yields gold at the approximate rate of 10 ounces per square meter, even at times producing as much as 50 ounces per square meter. It would be beyond the limits of this paragraph to name all of the streams of the Choco which bring down gold.

What is true of the gold deposits of the Choco is also true of most of the Pacific coast from the Rio San Juan to Mira, close to the international boundary between Colombia and Ecuador. Farther in the interior the alluvial sand of the Province of Barbacoas contains gold. An American company from 1866-67 took out of the Cargazon mine alone some 900 kilograms of gold. There are alluvial deposits containing gold along the entire course of the Cauca River. Toward the south there are deposits of gold in Caloto and Santander which have always been productive, as have those of Almaguer, the gold veins of Santander, and the silver mines of Toribio.

ESTABLISHMENT OF INDUSTRIES.—Since the war there have been established important factories making cotton and woolen goods, carpets, packing bags, shoes, flour, glassware, matches, cigarettes, and other products. Some of these manufactures, such as shoes, woolen goods, and bags, are exported.

COSTA RICA.

NEW SUGAR CENTRAL.—A new sugar central has been established in Orotina with all the necessary equipment, including boiler and centrifugal machinery. At present the plantation has 300 manzanas (a manzana equals $1\frac{1}{2}$ to $1\frac{1}{8}$ acres) of cane for cutting. The sugar industry is one that can well be developed in Costa Rica, and the new central will doubtless give an impulse to the development of this resource of the country.

NEW AUTOBUS SERVICE BETWEEN SAN JOSE AND CARTAGO.—A new company, known as the Costa Rica Motor Car Co., has started an autobus service between San Jose and Cartago. For the present the company is carrying only passengers, but hopes later to carry freight. It plans also to extend routes to Alajuela and gradually to all the neighboring towns. The motor buses are being built in San Jose, and are commodious and constructed especially for the roads of the country.

PROPOSED LAW CREATING A FUND FOR NATIONAL ROADS.—The draft of a law submitted to congress provides for the building and

maintenance of roads. According to the terms of the bill the road tax of each canton is to be converted to its own road building and improvement, and 4 per cent of the budget devoted annually to the repairs and building of roads; and a general directorate of roads is to be created to attend to the administration of the funds, contracts, etc., and to be a branch of the department of promotion.

CONDITIONS FOR SHIPMENT OF FREIGHT BY RAIL TO THE PACIFIC.—The *Gaceta Oficial* of January 18 published the conditions under which freight may be shipped on the *Ferrocarril al Pacifico*. The general terms are that the freight must be paid in advance in accordance with gross weight, the minimum charge being 60 centavos. The amount charged on shipments less than a carload lot should not exceed the charge for 13,000 kilograms, the rate for a carload lot being applied instead. The *Gaceta Oficial* gives all the provisions for perishable freight, lost freight, explosives, loss due to superior force, etc.

AUTHORIZED LOAN OF 52,000 COLONES.—The municipality of the canton of Santo Domingo is authorized to contract a loan of 52,000 colones for the purchase of a hydroelectric lighting plant for the city. The loan is to be contracted at not over 8 per cent interest with 4 per cent annual amortization, payable quarterly, to run for not less than 14 years, the municipality reserving the right to pay installments to a sum greater than the prescribed amount or to make the total payment at any time.

RESUMPTION OF GERMAN TRADE.—A report of the entry and departure of ships at Port Limon, forwarded by *Chargé d'Affaires* Thurston, shows an increased activity on the part of German merchants in visiting the Costa Rican trade.

EXPORTS OF BEEF TO MEXICO FROM PUERTO LIMON.—Recently a movement of beef steers for supplying Mexican markets was inaugurated by the arrival from Port Limon of one vessel carrying 1,088 head, followed shortly by another carrying 943 head. Consul Foster, of Vera Cruz, reports that the cattle arrived in excellent condition and are of better quality than the local stock. These importations caused a sharp drop in the price of beef.

CONCESSION FOR CULTIVATION OF FIBROUS PLANTS.—According to a report received from Consul Guyant, the Costa Rican Congress has just approved a contract, made by the minister of agriculture and two Costa Rican citizens, for the cultivation and production of fiber. The northwestern part of Costa Rica abounds in land suitable only for the cultivation of fiber, and it is hoped that this contract will stimulate the industry and make henequen one of the leading agricultural products of that section. A small amount is produced at present, but lack of facilities for extracting and marketing the fiber has kept the industry from expanding.

CUBA.

ELECTRICAL REPAIR SERVICE.—A modern service station for the prompt repair of all kinds of electrical machinery has been established in Habana.

EXPORTATION OF SUGAR TO THE UNITED STATES.—The amount of sugar exported to the United States increased from 1,099,404,000 pounds in 1900–1901 to 6,905,710,000 pounds in 1919–20.

SUGAR INDUSTRY.—Statistics concerning the present sugar crop show that the total amount of sugar exported up to March 19 amounted to 634,549 tons; that is, about 550,000 tons less than in the same period of 1919–20. The number of tons exported to the different countries was as follows: United States, 536,692, against 898,781 in 1919–20; Canada, 6,719, against 52,506; Great Britain, 43,312, against 176,279; France, 5,315, against 21,247; Spain, 592, against 4,374; Australia, 14,009, and Japan and China, 27,910. (The ton here used equals 2,240 pounds.)

FOREIGN TRADE OF CUBA FOR YEAR ENDING JUNE 30, 1920.—A report submitted by the chief of the statistical office, Señor D. P. de la Torres, to the minister of finance of Cuba, on January 26, 1921, gives the total trade of the Republic for the year ended June 30, 1920, as \$1,290,000,000, an increase over the previous year of \$504,000,000, or 64 per cent. Imports increased from \$315,686,000 in 1919 to \$435,257,000 in 1920, and exports from \$470,259,000 to \$855,138,000.

The increase in imports of \$119,000,000 was distributed as follows: Food products, \$49,800,000; textiles, \$25,800,000; machinery, \$18,740,000; earths and stones, \$5,000,000; animals and animal products, \$3,900,000; and chemical products and perfumery, \$2,300,000.

Of the total imports in 1920 (\$435,257,000), the United States supplied merchandise to the value of \$321,627,000, as against \$235,727,000 in 1919; United Kingdom, \$15,060,000, against \$10,285,000; France, \$13,024,000, against \$8,264,000; India, \$11,321,000, against \$12,151,000; and Canada, \$6,107,000, against \$6,755,000.

The export figure for 1920 exceeded that for 1919 by \$385,000,000, or 82 per cent. The most important increase was in the shipments of sugar, the value of which in 1920 amounted to \$779,050,000, compared with \$402,263,000 in 1919. The value of the tobacco exported exceeded that of 1919 by \$13,500,000, and there were increases in all other exports, with the exception of mineral products, in which there was a decline in value of \$3,600,000.

Of the total exports in 1920 (\$855,138,000), the United States took \$642,148,000, compared with \$343,693,000 in 1919; United Kingdom, \$127,020,000, against \$96,814,000; France, \$26,584,000, against \$11,322,000; Canada, \$15,297,000, against \$2,432,000; Spain, \$10,861,000, against \$5,784,000; Belgium, \$6,788,000, against \$669,000; and the Netherlands, \$5,942,000, against \$68,120.

ECUADOR.

AGRICULTURAL COLONY OF GERMANS.—An Ecuadorian-German company has arranged with the Ecuadorian Government to permit the bringing of 50 German families to Guayaquil for the purpose of agricultural colonization. The company has already secured the land for the installation of the colony at Gualvez and Nanegal, and has engaged to establish more of these colonies later. The enterprise is capitalized at 80,000,000 marks.

ASSOCIATION OF IMPORTERS.—About 87 importing firms met in response to the call issued through the press to form an association of importers for the purpose of strengthening the commercial relations of the country. The importers' association has recommended to the Government that importation shall be prohibited for a specified length of time on the following articles: Liquors and conserves in general for one year; china, fine glassware, and enamel ware for six months; medicines or patent medicines, with the exception of serums and hypodermic preparations, for one year; all kinds of fancy textiles, both silk and wool, for one year; articles of jewelry, watches, toys, and ornaments, for 18 months.

AERIAL NAVIGATION Co.—An aerial navigation company is to be formed in Guayaquil which will start operations with two aeroplanes for mail and passenger service between Guayaquil, other principal coast ports, and the chief cities of the interior. The company is entirely Ecuadorian and will receive considerable help from the Government. It will be possible through this service to bring the districts of Cuenca, Loja, and Esmeraldas into much closer communication with the rest of the Republic than heretofore when they have been separated by journeys of several days.

TRIAL OF ELECTRIC LIGHT IN GUAYAQUIL.—A special trial illumination was given on the Calle Pichincha from Aguirre to Francisco de P. Icaza recently. The system consists of 100 and 150 candle-power globes, with special shades, which project the light into the street. The new Diesel motors which have been installed in the power plant will now make it possible to furnish all the light needed at a smaller cost than that of the former system of city lighting.

AGRICULTURAL EXHIBITS.—Among the exhibits of farm products in the general directorate of agricultural promotion recently were sweet potatoes, some of which weighed as much as 4 pounds.

EXPORTS OF CACAO THROUGH PORT OF GUAYAQUIL.—The exports of cacao through the port of Guayaquil in 1920 were valued at 41,796,226 sucres. A tax of 8 centavos per kilo is levied on exports of cacao. In 1920 this tax amounted to 3,334,698 sucres, of which 2,716,755 sucres went to the Federal Government, and the remainder to the municipality of Guayaquil.

GUATEMALA.

PINEAPPLE CULTURE.—A firm, representing Guatemalan and foreign capital, has secured a tract of land near the port of San Jose and is contemplating setting out 2,000,000 pineapples, 60,000 of which have already been planted. A San Francisco firm is negotiating with the owners of the largest fruit-canning factory in the Republic with the object of purchasing and using it exclusively for canning pineapples. Honolulu interests are also making preliminary investigations in Guatemala with a view to engaging in the pineapple industry in that country. Among the varieties of pineapples grown in the Republic the sugar pineapple, known locally as the white pineapple, is worthy of mention.

AGRICULTURAL EXPERIMENT STATION.—An agricultural experiment station has been established on the Aurora plantation, near the city of Guatemala, under the direction of Victor Pérez, a Guatemalan agronomic engineer.

BIDS FOR CUTTING CABINET WOODS.—The department of fomento of the Republic of Guatemala will receive for a short period of time bids for cutting mahogany and cedar lumber in the district of Peten. Each contract is to cover 50,000 trees, which are to be cut and shipped within a prescribed time limit. The implements needed in preparing this lumber for shipment will be admitted free of duty. Full specifications may be obtained from the Guatemalan consulate general in New York City.

MICA MINES.—A company, composed of Guatemalans and foreigners, has been formed and has contracted with the Guatemalan Government for the exploitation of three mica mines.

CONSULAR INVOICE CHARGES.—Since April 1, 1921, the charges of consular officers for the legalization of consular invoices have been at the rate of 3 per cent on the declared value of the merchandise, exclusive of freight, insurance, and other expenses. These charges are payable in the money of the country in which the invoices are legalized.

LAW GOVERNING IMPORTS AND EXPORTS OF CATTLE.—A recent law requires that cattle imported from abroad shall not weigh less than 800 pounds per head and shall be in such a condition of health as will meet the sanitary requirements of the country. When cattle are exported, charge of \$2 per head is collected.

HAITI.

REGULATIONS GOVERNING IMPORTS OF LIVE STOCK.—The American consul at Cape Haitien reports that there are in Haiti no quarantine or sanitary regulations governing the importation of live stock. Registration is not required, nor are there any rules concerning the pedigree of pure bred animals. There are no special requirements as to certification, nor are any fees charged in connection with the im-

portation of live stock. The usual importation requirements are one Haitian consular invoice, one bill of lading, and one declaration made by the importer at the Haitian customhouse. Live stock imported for breeding or other purposes is not subject to customs duties. In the interior of the Republic are to be found herds of half wild horses, cattle, sheep, and goats, as well as razorback hogs and mixed breeds of chickens.

The manager of the National Railroad of Haiti at St. Marc has imported a few registered Jersey Duroc hogs, and hogs of this kind are being used for breeding purposes by the gendarmerie at the Government experimental farm near Cape Haitien. At present there are no ranches or farms in Haiti where the raising of fine cattle is being carried on. Some years ago the United West Indies Corporation imported a registered Jersey bull and bought a considerable number of native cattle for one of their plantations at St. Michel with the object of improving the strain of native cattle. The attempt was not successful, the cattle did not thrive and most of them died from unknown causes. There is a great field for the development of stock raising in Haiti. This development has been retarded, according to the opinion of the American consul, by unfavorable land laws and the difficulties aliens encounter in purchasing or leasing land.

HONDURAS.

NEW SUGAR CENTRAL.—The Government has given a concession for the establishment of a sugar central in the department of Choluteca. The concessionaire is granted freedom from import taxes on the machinery for his sugar plantations and mills, and is allowed the use of the rivers and streams near his property for motive power or for irrigation. He is also permitted to export the products of his industry without the payment of taxes, and to build factories for making by-products of cane.

RENEWAL OF CONCESSION FOR ICE FACTORY.—A five-year concession for an ice factory was renewed by the Government.

ESTABLISHMENT OF A COLONY.—A plan was proposed to the Government for the establishment of an industrial and agricultural colony of Hondurans in the region known as La Mosquitia (the Mosquito Coast), now almost uninhabited, but possessing rich natural resources.

CONCESSION GRANTED FOR A CIGARETTE FACTORY.—A concession was granted for the establishment of a cigarette factory in the city of San Pedro Sula, giving the concessionaire the right to import, free of duties, all the machinery and material except tobacco for his business, providing that the factory is in operation within 18 months.

MEXICO.

TRADE CONFERENCE IN MEXICO.—Plans for the first grand International Trade Conference of Mexico in June are as follows: The

Confederation of Chambers of Commerce of Mexico will invite the Mexican chambers of commerce, foreign chambers of commerce, and similar corporations and institutions, both Mexican and foreign, to participate in a celebration to be held from June 20 to 26. The confederation will have the collaboration of the following: American Chamber of Commerce of Mexico; Official Spanish Chamber of Commerce, Industry, and Navigation; French Chamber of Commerce; and the Italian Chamber of Commerce and Labor of Mexico City. The official languages will be Spanish, English, and French. The honorary committee of the conference will consist of the President of Mexico and the secretaries of industry, commerce and labor, interior, state, treasury, agriculture and promotion, communications and public works, and the diplomatic representatives of the foreign nations with which Mexico has friendly and economic relations. Questions which will be considered by special committees during the conference are: Domestic commerce; studies of Mexican maritime and land transportation and improvement of both; methods of selling, distributing, and advertising Mexican products abroad, and foreign products in Mexico; improvement of commercial attaché service; favorable customs provisions for agricultural or manufactured products which do not compete with native goods; methods which will induce manufacturers of machinery and agricultural implements to increase their selling propaganda in Mexico; extension of foreign credit for merchants, etc.

The good will committee of the Confederation of Mexican Chambers of Commerce left Mexico City in the latter part of March for an extended trip through the United States to invite the various chambers of commerce and boards of trade to send delegates to the International Trade Conference to be held in the City of Mexico in June. The committee visited the cities of El Paso, Los Angeles, Portland, Tacoma, Seattle, St. Paul, Minneapolis, Milwaukee, Chicago, Detroit, Cleveland, Buffalo, Boston, New York, Philadelphia, Baltimore, Pittsburgh, Washington, Cincinnati, St. Louis, Houston, Dallas, and San Antonio. They left Laredo for Mexico on April 18. From April 5 to April 10 they were in Washington, where they were received by the President of the United States, the director general of the Pan American Union, the director of the Bureau of Printing and Engraving, the director of the Bureau of Standards, and other Government officials.

PACKING HOUSE.—A charter has been granted by the secretary of agriculture and promotion for the establishment of a factory for the products made from whales and others of the whale species.

TWO LARGE ELECTRIC PLANTS.—The department of industry and commerce states that the *Compañía de Luz y Fuerza Eléctrica* has a concession to construct an 80,000-horsepower electric plant in the

State of Michoacan. An American company expects to build an electric plant in the State of Puebla, using a waterfall which will furnish it with 70,000 horsepower.

NEW ELECTRIC LINE.—The electric street car company of Tampico will construct a new line from the Plaza de la Unión to run through the principal points of the colonies of Volatín, Azteca, Rosario, Americana, Tolteca, and Rodríguez, joining the Aguila line near the new cemetery.

PETROLEUM IN THE CANTON OF VERA CRUZ.—Notice has been received from the department of industry that machinery has been shipped to San Cristobal la Llave for drilling oil wells, which the geologists think will develop on a large scale. Geologists have been making investigations in the region of Huauchinango, State of Puebla, and state that there are indications of a good field for the production of petroleum.

THE COMMERCE REPORT OF FOREIGN TRADE OF MEXICO FOR THE FIRST HALF OF 1919 AND 1920.—A report has been received from Chargé d'Affaires Summerlin, at Mexico, giving the statistics furnished by the Secretaría de Hacienda y Crédito Público for the foreign trade of Mexico during the first six months of 1919 and 1920. The total importations for the first half of 1919 amounted to 114,860,951 pesos and for the same period of 1920 to 168,398,306 pesos (1 peso = \$0.4985 United States currency). The total exportations for the first half of 1919 amounted to 173,294,775 pesos and for the corresponding period in 1920 to 215,474,647 pesos, thus affording a "favorable" balance of trade of 58,433,824 pesos in 1919 and of 47,076,341 pesos in 1920 for the six months period. Among the more conspicuous imports in 1920 were manufactures of iron and steel, vegetable and animal foodstuffs, and cotton manufactures and yarns. The most important export for this period was silver in its various forms, which amounted to 64,191,989 pesos then came petroleum products, amounting to 40,869,085 pesos, with henequen coming next at 22,741,452 pesos.

IMPORTS BY CLASSES AND COUNTRIES OF ORIGIN.—The values of imports in pesos by classes were as follows:

Articles.	January-June, 1919.	January-June, 1920.	Articles.	January-June, 1919.	January-June, 1920.
	<i>Pesos.</i>	<i>Pesos.</i>		<i>Pesos.</i>	<i>Pesos.</i>
Animal products.....	10,179,838	18,704,384	Machinery and apparatus.....	10,036,924	15,858,424
Vegetable products....	23,796,278	25,578,332	Vehicles.....	6,306,073	5,335,516
Mineral products.....	23,042,570	45,263,586	Arms and explosives.....	1,281,877	1,568,661
Textiles and their manufactures.....	16,081,764	19,565,420	Miscellaneous.....	8,518,191	12,283,361
Chemical and pharmaceutical products....	9,448,612	16,287,424	Total.....	114,860,951	168,398,306
Spirituos beverages....	1,435,012	4,015,932			
Paper and its products.....	4,733,812	3,937,266			

The value in pesos of the imports into Mexico from the principal countries of origin is as follows:

Countries.	January- June, 1919.	January- June, 1920.	Countries.	January- June, 1919.	January- June, 1920.
	<i>Pesos.</i>	<i>Pesos.</i>		<i>Pesos.</i>	<i>Pesos.</i>
Germany.....	3,488	19,316,457	Great Britain.....	5,709,332	13,633,923
Spain.....	3,800,266	4,424,222	India.....	293,744	1,787,045
France.....	3,326,619	9,333,514	United States.....	98,102,389	113,327,459

EXPORTS BY CLASSES AND COUNTRIES OF DESTINATION.—The value of the exports in pesos by classes was as follows:

Classes.	January- June, 1919.	January- June, 1920.	Classes.	January- June, 1919.	January- June, 1920.
	<i>Pesos.</i>	<i>Pesos.</i>		<i>Pesos.</i>	<i>Pesos.</i>
Animal products.....	8,920,403	5,455,816	Miscellaneous manu- factured products...	1,664,573	6,596,983
Vegetable products....	57,183,235	58,749,539			
Mineral products.....	105,526,564	144,672,309	Total.....	173,294,775	215,474,647

The exports from Mexico, in pesos, according to the chief countries of destination were as follows:

Countries.	January- June, 1919.	January- June, 1920.	Countries.	January- June, 1919.	January- June, 1920.
	<i>Pesos.</i>	<i>Pesos.</i>		<i>Pesos.</i>	<i>Pesos.</i>
Germany.....	975,294	2,684,030	United States.....	156,561,124	190,482,736
France.....	1,549,295	9,012,755	Chile.....	1,139,526	1,005,243
Great Britain.....	7,558,108		Argentina.....	962,691	1,264,472

NICARAGUA.

EXPORTS THROUGH BLUEFIELDS FOR JANUARY.—The exports through the port of Bluefields for January, 1921, were: Mahogany lumber, 303,122 feet; bananas, 31,800 bunches; cocoanuts, 1,100,000; and 275 ounces of gold.

PARAGUAY.

PARAGUAY CENTRAL RAILWAY.—The Paraguay Central Railway, which connects Asuncion with Encarnacion in the southern part of the Republic, is 274 miles long. Direct rail service is maintained over this line with Buenos Aires via the Argentine Northeastern and the Entre Ríos Railways. On June 30, 1920, the Paraguay Central Railway had 24 locomotives, 46 passenger cars, and 470 freight cars. In the fiscal year ending June 30, 1920, this road transported 509,369 passengers, 223,228 tons of freight, and 11,017 head of live stock. The revenues from all sources for the fiscal year ending June 30, 1920, aggregated 257,996 pounds sterling, while the total expenditures amounted to 152,044 pounds sterling. During the last six months

of 1920 the passengers transported numbered 281,014, and the freight hauled 125,183 tons.

PARAGUAYAN MARBLE.—Paraguay contains quarries of white-veined black marble, lead-colored marble, dark-veined marble, chocolate-colored marble interspersed with white veins, three kinds of rose-colored marble, pale blue marble, yellowish marble, and greenish marble with white tints. These marbles are now being wrought in Asuncion for industrial and ornamental uses.

LOWER PASSENGER RATES TO BUENOS AIRES.—According to the Paraguayan press steps have been taken to inaugurate a steamboat service between Asuncion and Buenos Aires which will carry round-trip passengers at an approximate charge of 20 gold pesos, as compared with the present rate of 70 gold pesos.

PERU.

PERU'S HYDRAULIC POTENTIALITY.—Peru is most fortunate in the matter of available water power for use in her industries. The Andean slope, extending the whole length of the Republic, is a region of streams and waterfalls. This region is from 50 to 150 kilometers from the centers of population and industry along the coast, but is close to the great mining districts on the Andean tablelands. It is only necessary to construct a small canal from a stream to obtain thousands of horsepower. One copper company, by means of a canal of about 15 kilometers, which draws its current from a small tributary of the Rio Mantaro, produces 20,000 horsepower. A dam in any river flowing down the cordillera can furnish from 50 to 100 horsepower. A modest estimate of the hydraulic potentiality of Peru is 15,000,000 horsepower. The total capacity of the present electric plants is 52,000 kilowatts. Of this energy over 41,000 kilowatts come from waterfalls. It is evident, therefore, that only a very small percentage of the available hydraulic energy is being used.

PERUVIAN WOOLS.—It is proposed to make important increases in wool growing. Although the land which is adapted to sheep raising is situated at a high altitude, the sheep can be perfectly acclimated by bringing them up gradually from lower to higher levels. The pasture land can support better grass than the native herbage, and is well watered even in droughts, for water can be obtained about 15 feet below the surface. There are three types of sheep now in the country, indigenous merinos dating back to the sixteenth century; improved merinos, based upon South American stock; and Romney Marsh and Romney Marsh crosses. Two fleeces have been submitted for yields and weights to the University of Leeds; one, an indigenous fleece yielding 76 per cent wool; and the other, an improved merino yielding fleece 74 per cent wool.

SALVADOR.

NEW STREET RAILWAY SERVICE.—The Compañía de los Tranvías de San Salvador y Santa Tecla has changed its traction system, replacing mules by autobuses. The company ordered 20 more autobuses of the same type in New York. These will be used to draw the old trams as trailers, to carry the second-class passengers and the baggage.

PAVEMENT IN SAN SALVADOR.—Bids were offered to the municipality for two lines of pavement, 3,000 square meters, from the Rosales Hospital to the station of the Occidente Railroad. The contract was let to the lowest bidder for 31,500 colones.

SILK INDUSTRY TO BE ESTABLISHED IN SALVADOR.—A silk corporation is considering establishing the silk industry in Salvador, as the country is suitable for the cultivation of the mulberry tree, and the climate propitious to the cultivation of silkworms. It is a new industry which would be likely to be beneficial to the country.

SHIPS OUT OF THE PORT OF ACAJUTLA.—The *Granite State*, a ship of 20,000 registered tons, bound for San Francisco, docked at Acajutla, taking on 15,468 pieces of freight.

AUTOMOBILE ROAD FROM SAN SALVADOR TO GUATEMALA CITY.—The automobile road from San Salvador to Guatemala City is already completed as far as Ahuachapan. The Government will pay 5,000 colones toward the project and the Junta de Agricultores (Agriculturalists' Committee) of the department 5,000 colones. After the road is finished it will be possible to make the trip between the two cities in less than 18 hours.

URUGUAY.

REGULATIONS FOR IMPORTS OF LIVE STOCK.—The decree giving the regulations governing the importation of cattle from foreign countries has recently been published. Captains of vessels to take aboard live stock for importation to Uruguay should before loading the vessel provide themselves with a document issued by the ministry of agriculture or corresponding office, viséed by the Uruguayan consul, setting forth that in the country of origin there has been no rinderpest during the past 10 years, no contagious pneumonia in six months, and that in the territorial division from which the animals have come there has been no Texas fever (fiebre aftosa). When sheep or goats are imported it is necessary to guarantee that there has been no rinderpest for 10 years, no Texas fever and no sheep pox for three months previous to the shipment of the animals. When hogs are shipped papers must state that there has been no rinderpest for 10 years, and in the district from which the hogs have come no Texas fever (fiebre aftosa), mal rojo, nor hog cholera for three months. When horses are imported there must have been no

rinderpest for five years and no cases of glanders for three months previous to the shipment of the horses.

PROJECTED LAW FOR THE SUBSIDIZING OF AGRICULTURAL EXPOSITIONS.—The proposed law appropriates 50,000 pesos for the promotion of live stock, agricultural, and industrial expositions, 28,000 pesos of the sum to be used for prizes in money at the national agricultural and live stock expositions; 12,000 pesos for the money prizes of the international live stock expositions, organized by the Asocia-cion Agropecuario e Hípica of Salto; and 10,000 pesos for prizes and expenses of the agricultural and industrial expositions. The national council of administration is to determine the conditions under which these prizes are to be given, and should make it understood that half of the appropriation is for the promotion of the farm.

AGENT OF FRENCH PACKING HOUSE VISITS URUGUAY.—The manager of the "Abattoirs Industriels de France" visited Uruguay with the purpose of arranging for the purchase of live stock for shipment to France.

INTERNATIONAL EPIZOÖTY (EPIDEMIC INFLUENZA) CONFERENCE IN PARIS.—The French Government has invited the Uruguayan Government to send delegates to the International Epizoöty Conference to be held in Paris in May, for the purpose of creating an international office to study this cattle disease, and for the centralization of research work and the publishing of information on the subject.

DECREE PERMITTING THE EXPORTATION OF WHEAT AND PRODUCTS.—The Diario Oficial of January 12 publishes a decree permitting the exportation of wheat and by-products. The general directorate of the customs will furnish immediate reports to the ministry of industry upon the permits for the exportation of these commodities passing through the customhouses, and weekly reports will be made by the ministry of industry to the national council of administration regarding the amount of wheat and derived products exported.

FOREIGN TRADE OF URUGUAY FOR 1920.—According to reports of United States vice consul at Montevideo the foreign trade of Uruguay for the year 1920 (preliminary figures) amounted to—imports, 48,164,912 pesos (\$50,091,508 at par); exports, 80,751,720 pesos (\$83,981,789). Compared with 1919 there was an increase in imports of 6,060,926 pesos, and a decrease in exports of 66,499,358 pesos.

The values of the imports from and exports to the principal nations during 1920 were: United States, imports 14,702,053 pesos, exports 20,209,211 pesos; United Kingdom, imports 8,299,030 pesos, exports 17,794,018 pesos; France, imports 2,484,803 pesos, exports 12,794,656 pesos; Belgium, imports 523,559 pesos, exports 6,318,791 pesos; Germany, imports 1,189,577 pesos, exports 5,929,702 pesos; Argentina, imports 10,457,821 pesos, exports 3,633,217 pesos; Italy, imports 1,139,809 pesos, exports 4,257,513 pesos; Brazil, imports 4,529,740 pesos, exports 2,487,903 pesos; Netherlands, imports 260,886 pesos,

exports 2,302,555 pesos; Cuba, imports 198,206 pesos, exports 1,795,638 pesos; Spain, imports 2,469,145 pesos, exports 1,197,973 pesos.

The values above given on the import side are all customhouse statistical valuations. Commercial values have been estimated to be 79.9 per cent higher than the statistical valuations. Export figures represent commercial values.

Among the principal classes of imports were: Food products, 9,900,497 pesos; fuel, 5,927,338 pesos; raw material, 5,418,671 pesos; hardware, 5,279,521 pesos; dry goods, 4,883,105 pesos; lumber, cement, etc., 1,850,237 pesos; and live animals, 1,718,524 pesos.

The principal exports were: Cattle on the hoof, 1,497,703 pesos; sheep on the hoof, 111,577 pesos; meats, frozen or preserved, and meat extract, 26,390,612 pesos; wool, 31,848,376 pesos; hides and skins, 15,190,076 pesos; tallow and lard, 2,120,432 pesos; hair, 310,612 pesos; bones, 249,408 pesos; agricultural products (grains, fruits, hay, etc.), 1,316,497 pesos; and stone and sand, 453,047 pesos.

VENEZUELA.

NATIVE VEGETABLE PRODUCTS.—Quillaja, or Panama, bark (also known as soap bark) is obtained from large trees in the mountainous regions of Venezuela. Sabadilla seed, used in tanning, is another indigenous product which exists in large quantities. Ipecac likewise grows wild, but can be improved by cultivation.

DEVELOPMENTS AT MARACAIBO.—Maracaibo holds an important position as the only available outlet for a large agricultural and mining region. Lake Maracaibo affords an effective and cheap means of communication between this port and many of the principal productive centers. There are many openings here for the investment of capital, and no restrictive legislation exists. If the bar at the entrance of Lake Maracaibo were removed, Maracaibo would be rendered a deep-sea port. Such a development would make possible the construction of a dry-dock and shipbuilding plant. There is much activity at present in the Lake Maracaibo basin in the development of the petroleum industry. About 60 miles west of the city large deposits of high-grade soft coal are to be found.

VENEZUELAN NAVIGATION Co.—La Compañía Venezolana de Navegación of Caracas owns and operates 13 steamers, from 25 to 1,200 tons burden, 1 dredge, 1 flatboat, and three sailing vessels. They are used on the Orinoco, Lake Maracaibo, and in coastwise trade. The profits of the company from July 1 to December 31, 1920, amounted to 331,584.67 bolivars, of which the sum of 232,109.27 bolivars was paid in dividends.

IMPORTATION OF PAINTS AND VARNISHES.—During 1918 paints and varnishes from the United States were imported through Maracaibo and Puerto Cabello to the amount of \$44,341.49, while during the

first half of 1919, the last period for which statistics are at hand, the value of the same imports reached \$63,404.

PIANOS AND PHONOGRAPHS.—The American consul at Maracaibo states that pianos and phonographs of American make are being imported in constantly increasing numbers.

ECONOMIC AND FINANCIAL AFFAIRS

ARGENTINA.

GENERAL STATEMENT OF THE BANCO DE LA PROVINCIA DE MENDOZA.—The general statement of the Banco de la Provincia de Mendoza for the fiscal year of 1920 shows that the profits amounted to 533,268.92 pesos, of which 194,748.44 pesos were used in the amortization of and payments on the loan of 1909.

BRAZIL.

LOAN.—The federal district has arranged with the Italo-Belgian Bank to float a loan of 20,000 contos, the proceeds of which are to be used in filling in the shallow parts of the Rodriguez Freitas lagoon, situated in the federal district between the mountains of the Gavea section and the Ipanema sector of the ocean beach. The reclaimed land will become the property of the federal district.

FRENCH BANK.—The French Bank for Brazil (Banque Française pour le Brésil), acting on orders from Paris, recently closed its Rio de Janeiro, Sao Paulo, and Santos branches. The assets of the bank are reported to be amply sufficient to cover its obligations.

CANADIAN BANK.—The Canadian Bank of Commerce with headquarters in Toronto has been authorized to operate in Brazil and to establish branches in Rio de Janeiro, Sao Paulo, and Santos.

CHILE.

COST OF LIVING.—Taking the prices of 1915 as a standard of 100, the cost of the 10 most necessary articles of food in 1919 in three important cities is shown by the following table:

	Antofogasta.	Valparaiso.	Santiago.		Antofogasta.	Valparaiso.	Santiago.
Rice.....	139	105	142	Corn.....	105	78	115
Sugar.....	122	104	181	Bread.....	112	92	103
Coffee.....	100	107	113	Potatoes.....	131	116	100
Meat.....	111	104	88	Beans.....	88	107	105
Flour.....	100	88	77	Wheat.....	94	59	68

COSTA RICA.

CONVERTIBILITY BILL PROVIDES FOR RESUMED GOLD PAYMENTS.—Consul Guyant reports that a bill has just been passed by the Costa Rican Congress stipulating that gold payments shall be resumed by private banks of emission on their currency in circulation. In September, 1914, all banks were relieved of the obligation to redeem currency in gold coin, with the result that Costa Rican paper has become greatly depreciated. Much of this paper has already been retired at depreciated rates and it is expected that practically all of the rest will now be presented for redemption.

The new law also provides for the redemption and incineration of Government silver certificates issued prior to June 23, 1917, and now in circulation, and stipulates that they shall be received at the custom-houses in payment of duties at the rate of 46.5 cents American gold for each colon. This is the par ratio of exchange with American money. These certificates will be valid only six months from April 1.

The currency issues of the Banco Internacional de Costa Rica, the Government bank, are exempted from the gold-conversion clause. This currency is made legal tender for the payment of all obligations.

CUBA.

FINANCIAL CONDITION OF THE REPUBLIC.—From the President's message read to congress in April are taken the following data relative to the economic condition of the Republic: Public debts: Payments for the last five months on the loan of \$35,000,000, issue of 1904, \$1,020,000; amortization on the internal debt, issue of 1905, \$32,400; interest on the same, \$253,652. Payments for foreign debt: Amortization and interest to the seventh monthly payment of the second year on the bond issue of 1919, \$425,000; amortization on the issue of 1917, \$401,000; interest on the same, \$146,462; series A of the issue of \$30,000,000 of 1917, \$639,700; series B of same issue, \$584,100. In September, 1920, there was a balance in the treasury, aside from the funds on hand in the Banco Nacional, amounting to \$8,776,514; and the receipts up to February were \$51,872,894, which, added to the sum collected from back payments, special funds, and money minted, gives a total of \$61,914,315, a sum which added to the balance makes a grand total of \$70,690,829. The expenditures up to February for all purposes amount to \$54,647,247, leaving, therefore, \$16,043,582 on hand, in spite of increases in the expenditures of the Government. The tax of 10 cents a sack on sugar brought in during the period indicated \$386,882; the tax of 4 per cent on profits is being collected without difficulty. From October 20, 1920, to March 14, 1921, coin to the value of \$69,197,726 was received. This contributed largely to solving the money crisis. The administration has minted

silver coins to a value of \$1,751,140, and nickel coins to the value of \$693,780, which makes a total of \$2,444,920. The minting of these coins cost \$1,616,065, leaving the treasury, therefore, a profit of \$828,855.

DOMINICAN REPUBLIC.

PURCHASE OF LIGHT AND WATER COMPANIES.—The municipalities of Santiago and Puerto Plata will purchase the *Compañía Anónima Dominicana de Agua, Luz y Fuerza Motriz*, which has been supplying both cities with water, light, and electric power. Bonds are to be issued for the purchase.

DREDGING AND EXTENSION OF DOCK AT SAN PEDRO DE MACORIS.—Executive order 614 provides for the dredging of the harbor of San Pedro de Macoris and the extension of the dock, \$50,000 having been appropriated to cover part of the cost. The previous appropriation of \$50,000 for the building of a customhouse in San Pedro de Macoris has been canceled.

MUNICIPAL DEBT.—The municipal debt of Santiago amounted to 139,000 pesos and the city revenues were equal to its expenditures. The municipality has much unsold public land and other resources.

ECUADOR.

FUNDS FOR THE PUBLIC CHARITY OF GUAYAQUIL.—A recent legislative decree states that the funds of the committee of public charity of Guayaquil shall provide a monthly subsidy of 20,000 sucres to be paid by the municipality of the canton from January 1, 1922; that the annual subsidy shown in the State budget shall not be less than that of the present year; that an additional tax shall be levied on gambling in the Province of Guayas; that both private and public automobiles shall be taxed according to their carrying powers. A surcharge on the manifests of consuls shall also be required to be sent to the treasurer of the charity committee to be divided between the cities of Guayaquil, Quito, and Cuenca.

HONDURAS.

CUSTOMS REVENUE.—The value of the customs revenue on imports and exports given below is in silver pesos: January, 1920, 380,015 pesos; February, 292,770 pesos; March, 316,291 pesos; April, 292,607 pesos; May, 312,116 pesos; June, 373,742 pesos; July, 590,696 pesos; August, 294,283 pesos; September, 331,884 pesos; October, 408,592 pesos; November, 345,183 pesos; December, 395,529 pesos; making a total for the year of 4,333,718 pesos.

REVENUE ON LIQUOR, 1916-1920.—The revenue on liquors in silver pesos for the period 1916-1920, inclusive, was: 1916, 1,963,465 pesos; 1917, 1,909,041 pesos; 1918, 2,107,969 pesos; 1919, 1,959,790 pesos; and 1920, 2,327,243 pesos.

MEXICO.

BUDGET FOR 1921.—The budget of the Mexican Government for 1921 is as follows: Superior offices, 539,790 pesos; collections and payments, 1,102,187 pesos; property and labor, 301,996 pesos; administration of justice, 2,003,530 pesos; penal and correctional establishments, 785,270 pesos; public safety, 388,775 pesos; general services of the Government, 136,442 pesos; general provisions, 1,032,500 pesos; buildings and installations, 323,000 pesos; and general expenditures of the Government, 1,781,120 pesos; total, 8,394,612 pesos.

REMOVAL OF MEXICAN EXPORT DUTY ON SUGAR.—The commerce report states that according to a cablegram from the commercial attaché at Mexico City the Mexican export duty on raw and refined sugar has been abolished, this ruling to be in force at once. From the same source comes the information that the import duties on cotton textiles became effective on April 15 instead of April 30.

NICARAGUA.

NEW LOAN TO COVER THE DEFICIT.—A new loan has been contracted with New York bankers by the Nicaraguan minister of foreign affairs for the amount of \$150,000 to cover the deficit of last year.

BUDGET FOR FISCAL YEAR.—The budget for the fiscal year has been figured at \$1,881,388, of which \$69,312.80 is for public instruction, \$143,067.31 for hacienda and public credit, \$181,446.50 for promotion and public works, and \$264,941.22 for the police department.

PANAMA.

MARITIME QUARANTINE ECONOMICS.—The method of protecting the Panama Canal from yellow fever was changed during 1920. As a reward for careful inspection at those ports under suspicion, the six-day quarantine heretofore enforced by the Canal authorities against them was removed. The realization that the raising of this quarantine, so injurious to their trade and development, would not only aid commercially, but would also protect them, as well as the canal from disease, has been a great incentive. A study of the economics of the old and new systems for 1918, 1919, and 1920 has been made. While an absolutely accurate estimate could not be reached, the average ton detention day loss for a ship held in quarantine, or an average passenger detention day loss for passengers so situated, can be fairly placed at 50 cents per ton-day for the former and \$5 per passenger-day for the latter. Thus, in 1918, there were 151,176 ton detention days and 38,169 passenger detention days, with a total direct loss of \$267,935. In 1919 the loss was \$175,538 and in 1920 it was \$191,266. These figures show a decreasing loss, but an appre-

ciation of the actual ratio of loss to the tonnage is more apparent in the money loss per thousand tons received, which were in 1918, \$23.15; in 1919, \$11.96; and in 1920, \$8.64. The following table shows graphically the heavy loss incurred by quarantine detention:

Year.	Total tons received.	Total ton detention (days).	Total passenger detention (days).	Total loss.	Loss per thousand tons received.
1918.....	11,572,473	154,176	38,169	\$267,935	\$23.152
1919.....	14,512,721	161,376	18,570	173,538	11.968
1920.....	22,128,254	48,172	33,436	191,266	8.643

PERU.

PERUVIAN BANKING DECREE.—A cablegram from Lima gives the following information: By Government decree national foreign banks are obliged to maintain their capital and all deposits in their vaults or employ them in Peruvian investments and loans.

SALVADOR.

CUSTOMS REVENUE OF SALVADOR FOR 1920.—The customs revenue for Salvador for 1920 was as follows: January, 740,305 colones; February, 946,362 colones; March, 938,496 colones; April, 965,260 colones; May, 703,033 colones; June, 911,155 colones; July, 774,242 colones; August, 717,971 colones; September, 508,310 colones; October, 485,113 colones; November, 620,275 colones; and December, 588,733 colones, making a total of 8,899,255 colones for the year.

PRODUCT OF LIQUOR TAX.—The product of the tax on liquors for the year 1920 in Salvador amounted to 3,070,534 colones.

IMPORTATION BONDS OF 1921-22.—The ministry of finance informed the commercial firms of the Republic that in accordance with an Executive decree of December 16 the importation bonds were on sale in the customs section of the general treasury. These bonds were sold for cash, to be paid for in bank certificates, American gold coin, or American bills, at the rate of 2 colones per dollar, or in sight drafts on the United States at 106 per cent of the price. After July 1, 1921, 10 per cent of the customs duties of importation must be paid in these bonds. No other tender will be accepted in place of them as payment.

URUGUAY.

BANCO ITALIANO DEL URUGUAY.—The Banco Italiano del Uruguay has been authorized to renew current operations with the discount banks.

TREASURY REPORT FROM PRESIDENT'S MESSAGE.—From the President's message read before congress on March 15, the following

figures in regard to the treasury have been taken: Revenues already collected and to be collected before August 31, ending the fiscal year of 1920-21, amount to 24,850,760 pesos, and the obligations amount to 26,717,831.59 pesos. Comparing the two, a probable deficit of 1,867,071.47 pesos is shown.

DECREE GOVERNING RAILROAD BONDS ISSUED FOR CONSTRUCTION FUNDS.—The railroad bonds defined in the law of January 30, 1919, for the construction of the railroad of San Carlos, or that of Abrial de Perdomo to the city of Rocha, are provided for in the decree of March 7. This decree states that they shall have an annual interest of 6 per cent and an annual amortization of 1 per cent; be issued to bearer for values of 1,000, 500, and 100 pesos numbered correlatively, bearing the signatures of the minister of the hacienda, of the general treasurer of the Nation and the director of the office of public credit. Fractional certificates will also be issued for amounts less than 100 pesos, and when these fractional certificates are presented in sufficient number to equal 100 pesos they shall be exchangeable for whole bonds. The amount of the issue shall not be over 2,500,000 pesos. The interest will be paid quarterly on April 1, July 1, October 1, and January 1, and the amortization will be paid twice a year during the first 10 days of the months of April and October. Beside the mortgage rights over the constructed portion of the railroad the bonds shall have the guarantee of the State.

FUNDS TO THE ACCOUNT OF THE WAR DEPARTMENT.—A decree has been issued to the effect that the Banco de la Republica is to open an account of 30,000 pesos to the order of the ministry of war and navy for the purchase of equipment and supplies.

TARIFF ON WOOLS.—The Diario Oficial of January 25 publishes the tariff on raw wools, washed wools, products of shearing, dried cowhides, salted cowhides, sheepskins, and tallow, which are subject to an export tax of 4 per cent ad valorem. The appraisals of the foregoing articles shall be made twice yearly, in June and December, by a commission composed of the director general of customs of the Nation, the director of the office of commercial statistics, a representative of the Asociación Rural del Uruguay, and a delegate of the chamber of mercantile products of the country. Such valuations (appraisals) may be contested before the national council of administration within 15 days after their publication.

VENEZUELA.

BANK OF VENEZUELA.—The Bank of Venezuela in February declared an extra 10 per cent dividend on the profits of the second half of 1920.

PUBLIC INSTRUCTION AND EDUCATION

ARGENTINA.

EXCHANGE OF INSTRUCTORS WITH UNITED STATES.—Through the influence of the Argentine ambassador the University of Buenos Aires voted to extend assistantships in the School of Economic Sciences to two students from the University of North Dakota, provided that the University of North Dakota would respond with a similar offer to the University of Buenos Aires. Each institution will pay the traveling expenses of its own men. It is expected that the exchange will be in effect the coming year.

ASOCIACIÓN PROGENIE D'ITALIA SCHOOLS.—The schools of the Asociación Progenie d'Italia opened March 1, giving courses in Italian, piano, singing, violin, dressmaking, and elements of art. The only condition necessary for entrance is to be of Italian origin.

SCHOOL OF ARTS.—Under the patronage of the National University of La Plata a school of arts is to be started with the present school of drawing as a foundation. The ordinance passed by the council states that the school will teach drawing, clay modeling, and the following applied arts: Wood and stone carving, metal working, glyptics, painting, graphic arts, weaving, ceramics, and leather work in their various branches.

UNIVERSIDAD NACIONAL DEL LITORAL.—The Boletín Oficial of February 26 publishes the full text of the statutes and curriculum of the medical school of the National University of the Littoral, which will contain four sections, namely, medicine, pharmacy, odontology, and obstetrics. This official publication can doubtless be seen at the Argentine embassy or at the consulates of that country, and will be of much interest to physicians and dental surgeons who consider settling or visiting in the Argentine Republic.

BOLIVIA.

NEW SCHOOL.—A school has been established in the city of Santa Cruz under the auspices of the students' law club. The school has two departments—one for beginners and the other for a higher grade of instruction. Among the subjects which are to be taught are the following: Spanish, mathematics, geography, natural history, secular history, civics, and ethics.

CHILE.

SCHOOL OF MINES.—The School of Mines of Copiapo reopened in March with an unusually large registration.

STUDENTS' HOME.—Due to the efforts of the National Council of Women a students' home for 16 girls was opened in Santiago in 1919. This year it will accommodate 40.

NIGHT SCHOOLS.—The Society for Industrial Promotion of Santiago maintains three night schools, which reopened in March for the school year. In one the courses are for those wishing to be mechanics, draftsmen, or electricians; in the other two, ornamental drawing as applied to industrial art is taught to men and women.

CHILE-AMERICAN ASSOCIATION MEDICAL FELLOWSHIP.—The Chile-American Association, which some time ago established a mining scholarship at the Massachusetts Institute of Technology, has supplemented this action by establishing a medical fellowship at the New York Post Graduate Medical School and Hospital. The fellowship is for a year, and the association has made full financial provision for it. The decision to establish the fellowship was reached after the return of Dr. William J. Mayo from South America. Award of the fellowship was made under a competitive examination arranged by the minister of public instruction in conjunction with the medical faculty of the University of Chile. The successful competitor is a young surgeon, who until he left for New York to begin his studies there was connected with the children's hospital in Santiago.

COLOMBIA.

PRACTICE FLIGHTS AT THE AVIATION SCHOOL.—The school of aviation has been making trial flights with great success. French pilots are in charge of instruction and passenger flights. The mission is working to set up new machines, get the shops in working order, and instruct the Colombian aviation students.

CITY NIGHT SCHOOL.—The city night school of Bogota is meeting with deserved success. Eighty workmen are in attendance.

COSTA RICA.

TEACHERS' PENSIONS.—The Gaceta Oficial of January 8 gives the conditions under which teachers in the public schools may receive pensions. The requirements of most importance are a certificate from the school medical examiner to certify that illness is the reason for the application; proof that the applicant has contributed to the pension fund for a period of at least 10 years; and an official statement of the length of time spent by the applicant in teaching service. No pension will be paid a teacher whose conduct does not conform to that becoming an educator.

SCHOOL IN ARANJUEZ.—A committee of citizens has been formed in the ward of Aranjuez to promote plans for the founding of a primary school to accommodate the children of the neighborhood.

CUBA.

SCHOOL OF BUSINESS ADMINISTRATION.—Two hundred and fifty-five students have been in regular attendance at the School of Business Administration opened in Habana last year as a branch of Boston University.

PROVINCIAL INSTITUTE OF MATANZAS.—On the 1st of May was opened the fine new building of the Institute Provincial of Matanzas.

FELLOWSHIPS.—The department of public instruction has awarded the three fellowships for music, painting, and sculpture established by a law passed in April, 1918. Each recipient of a fellowship will study five years in Europe.

DOMINICAN REPUBLIC.

EDUCATIONAL ASSOCIATION.—The inhabitants of the Guayacanal de Aciba section have founded an educational society for the purpose of establishing a school in a neighborhood where there are about 100 children without school facilities.

GUATEMALA.

AVIATION SCHOOL.—A school of aviation mechanics has been established by the Guatemalan Government in the "Campo de Marte" in the city of Guatemala, under the direction of French instructors.

HAITI.

LAW CREATING THE UNIVERSITY OF HAITI.—A law has been passed creating the University of Haiti under the direction of the secretary of public instruction as head of the university. The purposes of the university are: (1) To give encouragement to worthy professors and teachers; (2) to reward the authors of books written for the benefit of young students; (3) to found or complete libraries and laboratories in schools; (4) to found chairs in the secondary and superior schools; and (5) to award, by means of contests, travel funds for students, and to encourage in every way possible the development of public instruction. The university is created under the department of public instruction with the State secretary of public instruction presiding over the national council of the University of Haiti.

MEXICO.

AMERICAN PROFESSORS IN MEXICO.—In reciprocation of the offer of 150 scholarships to young Mexicans made through the Mexican-

American Scholarship Foundation established through the National Foreign Trade Council, President Obregón announced on April 12 that the Mexican Government invites the foundation to select 12 university professors of the United States to come to Mexico for the purpose of studying archaeology, Spanish, geology, Mexican history, etc. The Mexican Government will pay railroad fare from the border and will authorize for each professor the sum of 2,000 pesos annually.

FREE COURSES IN SPANISH LANGUAGE AND LITERATURE FOR FOREIGNERS.—The Mexican University has decided to open summer courses in Spanish language, literature, and art for the benefit of teachers from the United States who teach Spanish in American schools. The university is sending a descriptive leaflet to the various universities of the United States to inform them of the courses, reliable and reasonable boarding places, and capable guides and teachers. The courses will be free, but a small charge will be made for visits to points of historic interest.

SUMMER TOUR IN MEXICO.—The summer school in Spanish of the University of Arizona will conduct a party through Mexico. Members who wish to do so may attend summer courses in the Universidad Nacional of Mexico from June 30 to August 10.

SCHOOLS FOUNDED IN FEDERAL DISTRICT BY KNIGHTS OF COLUMBUS.—During the past year 20 schools have been opened in the Federal district by the Knights of Columbus. Some of the schools are for children and some for workmen. Shortly there is to be completed the Casa del Obrero, or workman's house, where the workman may acquire a mastery of his trade. The building will occupy a whole square, and in its classrooms will be taught drawing, the arts and industries, and the trades. There is a nursery for the children of workmen, dining rooms, etc. There are consulting physicians in connection with this institution who give advice to many needy sick persons.

NICARAGUA.

CENTRAL UNIVERSITY.—The President of Nicaragua has recently approved the contract for the construction of the new Universidad Central at Las Piedrecitas, about 6 miles from Managua. The building is to be completed within two years.

SCHOOL SYSTEM TO BE REORGANIZED.—The reorganization of the school system in accordance with plans based on the suggestions of George T. Shoens, late educational adviser, has begun in the departments of Chinandega, Jinotega, and Esteli.

TEACHERS REQUIRED TO HAVE DIPLOMAS.—The minister of public instruction has announced that in future preference will be given in the appointment of school teachers to those having teachers' diplomas.

PARAGUAY.

CONGRESS OF TEACHERS.—A congress of school teachers met in Asuncion on February 12 last with the object of improving instruction in the Republic.

SALVADOR.

SCHOOL OF MUSIC OPENED.—A school of music was opened in San Vicente, the inaugural address being made by the governor of the department.

CHANGES IN THE EDUCATIONAL SYSTEM.—The directorate general of public primary instruction has divided the education department into five sections. Each has its own chief, who will be an expert in his branch of teaching.

TEACHERS' SOCIETY.—A teachers' society has been founded in the city of San Salvador for the promotion of improved intellectual, moral, and economic conditions for members and for helpful cooperation.

DECREE REGULATING THE CONCESSION OF SCHOLARSHIPS.—The Republic of Salvador published a decree regulating the number of scholarships to be given by the State in accordance with the funds assigned to such purpose in the annual budget. Each year in December the Government will announce how many scholarships will be granted and in which schools they will be given. An aspirant for a scholarship must fulfill the following conditions: He must be over 10 and under 21 years of age; he must present a certificate of good health from a physician; he must have been prominent as a good moral and intellectual force in his former school; he must show that his parents are poor; and he must take an examination.

URUGUAY.

HEAD OF SECONDARY EDUCATION.—The Council of Secondary Education elected Dr. Augustín A. Musso as dean of that branch of instruction for the term 1921-1924.

VENEZUELA.

AVIATION SCHOOL.—An aviation school has been started in Maracay. Three French aviators will act as instructors.





LEGISLATION

CHILE.

IMPORTATION AND SALE OF OPIUM, COCAINE, COCA, AND THEIR DERIVATIVES.—Opium, cocaine, coca, and their derivatives, according to a regulation approved February 14 by the Government, may be imported only for medical or pharmaceutical purposes. The director of health will determine the size of the importation. Every distributor of these drugs is obliged to keep a sales record, showing the quantity sold to every purchaser, the purchaser's name, and the date of sale.

GUATEMALA.

STAMP TAXES.—The official newspaper of Guatemala published in its issue of February 21 last the text of the tax law which became operative on March 1, 1921. Section I of this law treats of sealed paper and document stamps and prescribes that contracts and documents representing a value of less than 100 pesos are exempt from taxation; from 100 to 499 pesos the taxes are 25 centavos; and from 500 pesos to 1,000 pesos or more the taxes are at the rate of 50 centavos for each 500 pesos or fraction thereof. Theater tickets, checks, and documents of all kinds, such as wills, inventories, etc., as well as inheritances and gifts, are subject to taxation.

PARAGUAY.

AMENDED RURAL CODE.—Señor Genaro Romero, director of the division of lands and colonies of the Paraguayan Government, has compiled and conveniently indexed the Rural Code of Paraguay with amendments to date, thereby enabling one to determine at a glance the laws now in force on this subject.

PERU.

AMENDMENT TO CHILD LABOR LAW.—On March 26 last President Leguía promulgated an amendment to the law governing the employment of women and children. This amendment prescribes that in establishments where work is not suspended on Saturday afternoons, children under 18 years of age and women employed therein shall not work on Mondays. Violations of the law are punishable by a fine of from 5 to 50 Peruvian pounds. The law further provides that

women and children who are discharged without just cause shall receive two months' pay.

REMOVAL OF TAX ON VANADIUM.—The President has signed a resolution lifting the export tax on minerals containing less than 10 per cent of vanadium. Export taxes collected on this article will be returned in accordance with C. No. 506 on the return of taxes.



GENERAL NOTES

ARGENTINA.

TRAVELER'S LICENSE.—The Association of Commerce and Industry has petitioned the Argentine Government for a single traveler's license to cover all provinces and territories of the Republic.

ARGENTINE EXPOSITIONS.—The annual cattle and agricultural show of the Sociedad Rural Argentine and the annual show of the Automóvil Club Argentino will be held in the month of September. Both of these expositions draw a large attendance from all parts of Argentina, Uruguay, and other neighboring countries. The agricultural exhibition will take place in the grounds of the association in Buenos Aires.

PORT OF ROSARIO.—The Argentine Government proposes to convert Rosario into a first-class port by dredging and building a 500-meter concrete river wall. To facilitate the loading and unloading of steamers, there will be built modern grain elevators having rail connections with the interior. The estimated cost of the work is 3,000,000 pesos gold.

OIL-BURNING LOCOMOTIVES.—The Argentine-American Chamber of Commerce states that the national railways administration is ordering the construction of reinforced concrete tanks with a capacity of 5,000 tons each to be built at Santa Fe for the supply of fuel oil to locomotives.

AMERICAN ACADEMY OF HISTORY.—The Academia Americana de a Historia held its opening session for the present year in April. The program of the academy contains the following points: The establishment among members and associates of reciprocal communication regarding their historical researches; the collection of material for selected works of American historical literature, poetry, novels, and related matter; the diffusion of literature and pictures on histor-

ical places and monuments; and the collection of traditions and legends. The academy also proposes to publish material for American propaganda. An important work concerning Peru and another in honor of the centenary of Gen. Mitre's birth will be issued under the auspices of this society.

JEWISH COLONY OF ENTRE RIOS.—The Jewish Colonization Organization in a letter to the Nación of Buenos Aires gave the following data on the Jewish colonies in Entre Rios, which have been established there for some years: Population, 1,550 families of colonists, consisting of 8,800 persons, 500 farm laborers' families living in villages, and 3,050 persons, mostly native born, distributed through some 40 towns, settling about 1,200 farms; colonized lands, 191,000 hectares (cultivated land, 85,000 hectares; pasture land, 106,000 hectares), on which an annual land tax of 170,000 pesos is paid; property of the colonists, 47,000 head of cattle, 31,500 horses, and 13,000 sheep, which, with the inventory of farm implements, represent approximately 8,000,000 pesos. In the creameries 7,000,000 liters of milk, worth 350,000 pesos, are annually used. There are eight towns with many business houses of considerable development; four cooperative societies with sales branches, produce warehouses, and grain storage; eight main libraries in the principal towns with branches among the settlements; and two large hospitals and three first-aid dispensaries. The 39 schools are attended by 2,700 pupils.

NEW PORT WORKS OF BUENOS AIRES.—The work on the new port improvements of Buenos Aires will amount to 169,128 pesos gold. One thousand men are employed on the construction, which will be hastened as much as possible.

BRAZIL.

AUTOMOBILES.—The city of Pernambuco has in service 851 automobiles, 127 trucks, and 8 motor cycles. All of the motor cycles and about 90 per cent of the autos are of American manufacture. Automobiles pay a duty of 7 per cent ad valorem, 55 per cent of which is payable in gold and the remainder in currency. The duty on motor trucks is 5 per cent ad valorem.

POPULATION OF CITIES IN STATE OF SAO PAULO.—The population of the city of Sao Paulo is 565,000; of Santos, 80,000; of Ribeirao Preto, 25,000; of Sorocaba, 25,000; of Piracicaba, 20,000; and of Jahu, 25,000. There are more than 20 towns in the State of Sao Paulo with a population of over 10,000 each.

CENTRAL RAILWAY.—The receipts of the Central Railway of Brazil in March last amounted to 785 contos, as compared with 755 contos during the same month of the previous year.

CHILE.

RAILWAY CONGRESS.—A national railway congress will be held in Santiago in September.

ANTOFOGASTA-BOLIVIA RAILROAD.—The gauge of the Antofogasta-Bolivia Railroad, which measures 0.76 meter, is soon to be widened to 1 meter. The trip between Antofogasta and La Paz takes 36 hours. There are 16 branch lines.

STRIKES.—From a very interesting and complete report on strikes for 1916, 1917, 1918, and the first half of 1919, published in the Bulletin of the Bureau of Labor, an excerpt of some statistics for the last-named period is made. Causes of strikes: Labor contract, 9; wages and labor contract, 13; wages, 6; sympathetic strikes, 4; recognition of the federation, 5; eight-hour day and increase of wages 3; eight-hour day, 1; elements foreign to labor, 4; causes not indicated, 2. These 47 strikes were settled in the following ways: Arbitration court, 8; compromise, 14; success, 12; failure, 5; pending, 1; result unknown, 7; 44 of these strikes lasted 525 days, and 155,348 days' work was lost; 16,355 laborers participated in 45 strikes.

ARBITRATION IN LABOR DISPUTES.—The Chamber of Commerce of Valparaiso offers its services as arbitrator in labor disputes in cases where there is no signed contract. If the party opposing the one which asks for arbitration refuses to accept this method of reaching a settlement, other chambers of commerce will be so informed.

CONSTRUCTION OF PUBLIC WORKS.—Fifty million pesos have been raised by the Government for constructing the following public works: Bridge over the Cachapoal River for drinking water for Rancagua; improvements in the water supply of Serena and Coquimbo; construction of a wharf and esplanade at Arica; construction of water-works at Lautaro; completion of sewer and addition to the water-works at Arica. Chilean labor exclusively will be employed in the work. Contracts were let in March.

EMPLOYMENT DEPARTMENT.—In 1919 the employment department of the bureau of labor received 20,489 applications for work, and 6,720 offers of positions for individuals and 122 for families. The bureau sent out 12,801 workmen and 67 families.

TENEMENT HOUSES.—The Bulletin of the Bureau of Labor gives the following figures, obtained from an investigation of 3,211 tenements in 1919: 2,039 had running water or sewer; 2,914 had drinking water; 615 had gas or electric light; 891 were in an uninhabitable condition, 1,610 in a fair state, and 710 in excellent condition. The number of persons per room varied from 1.66 to 5 in the different departments, and in Valparaiso from 2.06 to 3.26. This study contains figures for 1916, 1917, and 1918, and also gives comparative statistics of rents.

ALCOHOLIC BEVERAGES.—The Government has presented for consideration a plan for the strict regulation of the manufacture and sale of alcoholic beverages.

COLOMBIA.

FERROCARRIL CENTRAL DE PACÍFICO BETWEEN CALI AND POPAYÁN.—It has been decided to adopt for the route of the Pacific Railroad between kilometer 64 and the city of Popayán a line following the cordillera near the towns of Morales and Cajibío, instead of the route specified in the plans and surveys of the resolution of June 27, 1916. The new route was requested by the inhabitants of this district, as it is considered to afford better transportation facilities for the rich regions of this department.

AQUEDUCT AND TELEPHONE SYSTEM OF MEDELLIN.—Work has been progressing rapidly on the aqueduct and telephone systems of Medellin. Some 3,800 meters of aqueduct pipe have been laid, and the work will soon be completed.

AUTOMOBILE ROAD FROM IBAGUE TO HONDA.—Ordinance 27 of this year passed by the local government provides for the surveying of an automobile road from Ibagué to Honda.

LABOR UNIONS FORM A DIRECTORATE.—The labor unions of Santa Marta have formed a departmental directorate.

CONTEST IN LITERATURE IN HONOR OF JORGE ISAACS.—The Jorge Isaacs committee has opened a literary contest in order to commemorate the poet and to raise funds for the erection of a statue to him. There will be three prizes for the three best compositions—the gold violet, the silver jasmine, and the silver daisy. The first two prizes will be for verse dedicated to the poet and to “María,” respectively. The third theme will be a story on any national subject. The contest closes June 15, and the committee of judges will render its decision on the last day of the same month.

GOVERNOR INAUGURATES TELEPHONE LINE.—The governor of Barranquilla personally opened telephone communication with Repelón, a city located near the department of Bolívar. This line completes the communication by telephone between the towns of Rotinet, Arroyo de Piedras, Lurauco, and Molinero.

COSTA RICA.

SIX HUNDRED AND ONE KILOMETER FLIGHT OF AVIATOR VENDITTI.—The Italian aviator Venditti in a biplane attempted to make the flight from San José to Nicaragua, and covered a distance of 601 kilometers in his trip, which was interrupted by a storm. Due to the poor visibility conditions and the force of the wind the aviator was obliged to land on the property of the United Fruit Co. at Santa Rosa Hacienda.

CENTRAL AMERICAN ATHLETIC CONTEST TO BE HELD IN GUATEMALA.—As part of the celebration of the centenary of the independence of Central America an athletic contest is to be held in Guatemala which will be open to contestants from Costa Rica and other Central American countries. The contest will be held on September 15 next.

TEN THOUSAND TUBES OF VACCINE FOR THE RED CROSS.—The Red Cross of Costa Rica ordered from New York 10,000 tubes of vaccine, which it will use to vaccinate the children in the schools of the capital and provinces.

CUBA.

WIRELESS TELEPHONES.—The Government has granted a concession for wireless telephone service between the principal cities. The installation should be completed in five years.

DOMINICAN REPUBLIC.

FIGURES FROM THE CENSUS OF THE DOMINICAN REPUBLIC.—The census recently taken in the Republic gives the following data as to populations: Commune of Barahona, 12,318; commune of Seybo, 16,405; commune of Cabrera, 4,868; commune of Gaspar Hernandez, 4,006, and the commune of Blanco, 13,345 inhabitants.

ECUADOR.

LECTURE ON CARE OF CHILDREN.—Dr. Carlos García Drouet delivered a lecture on the care of children in the Universidad Central recently, in which he dwelt chiefly on the diseases of the digestive tract. Besides describing the most prevalent of these diseases he gave suggestions for both prevention and treatment.

SOCIETY FOR THE PROTECTION OF CHILDREN.—The society for the protection of children of Guayaquil is working for the early opening of the children's hospital.

ECUADORIAN ASSOCIATION OF BOY SCOUTS.—The General Association of the Boy Scouts of Ecuador at their recent meeting in the national college, Vicente Rocafuerte, elected officers and decided to hold their first national assembly in Quito May 24, 1922.

INDUSTRIAL EXPOSITION.—Under the auspices of the general committee of agricultural and industrial promotion arrangements are being made for an industrial exposition to take place in Quito on the anniversary of independence in 1922.

WIRELESS TELEPHONE AND TELEGRAPH SETS.—The employees of the telegraph company have presented to the Government two sets of telephone and telegraph instruments.

GUATEMALA.

AUTOMOBILE ROADS.—There are about 500 automobiles in Guatemala, the use of which has stimulated the building of public roads. Work is in progress in both Guatemala and Salvador on the automobile highway which is to connect the capitals of the two Republics. A paved road is also under construction from Guatemala City to Antigua and from Mulua to Quezaltenango.

PROPOSED ELECTRIC RAILWAY.—The Government is considering the building of an electric line from the city of Guatemala to Antigua.

WIRELESS.—A wireless service has been established between the Republics of Guatemala and Salvador. The charge for the transmission of messages is 5 cents a word.

BOOK ON GUATEMALA.—Adrian Vidaurre, minister of Guatemala in Cuba, will soon publish a book entitled "Los Últimos Treinta Años de Guatemala" (The Last Thirty Years in Guatemala).

FRENCH MILITARY COMMISSION.—In compliance with a request of the Guatemalan Government the Government of France has sent a military commission to Guatemala to serve for a period of two years.

NEWSPAPER CONGRESS.—The Second Congress of Central American Newspapers will meet in the city of Guatemala in September next during the celebration of the first centenary of the independence of Central America.

HONDURAS.

DEPARTMENT OF CORTES TAX.—A tax of 1 centavo has been laid on every half kilo of merchandise entering the department of Cortes, with the exception of merchandise tax free by law or by concession. The proceeds of the tax will be used for the construction of a drainage system in the city of San Pedro Sula. No more than 300,000 pesos will be raised.

FORMATION OF A MUNICIPALITY.—The necessary measures have been passed for the formation into a municipality of the town of La Campa and its outlying settlements.

MEXICO.

AGRICULTURAL COMMISSION FORMED.—The agricultural commission is now acting, having under its jurisdiction all the real property of the Government, both that permanently belonging to the country, and that which is temporarily held. It will also see that this property is well administered, and will collect the revenues therefrom.

MEXICO WILL INVITE ALL THE AMERICAN NATIONS TO SEND DELEGATES TO HER CENTENARY.—The department of foreign relations, in accordance with the decision of the President of the Republic, will

invite all the countries of Central and South America and also Cuba to send delegates to the centenary celebration of the independence. Mexican students are undertaking the organization of a Pan American students' congress to take place at that time.

AEROPLANES FOR CUSTOMS GUARDS.—The three Lincoln Standard aeroplanes purchased by the Government are for the customs guards to prevent smuggling.

THREE THOUSAND ITALIAN FAMILIES AS COLONISTS.—Three thousand Italian families are coming to Mexico to settle as colonists.

CONSERVATION OF ARTISTIC AND HISTORIC MONUMENTS.—Many of the artistic and historic monuments have suffered through lack of care. The commission for the inspection of artistic and historic monuments is now undertaking the work of looking after these valuable relics of ancient culture. Among the buildings which suffered most is the former convent of San Francisco, built in 1729, in the city of Celaya. The façades, railings, gratings, vaults, and many other parts of the building have been destroyed. The former convent of San Augustin in the same town is in a similar condition. A note has been sent to the municipal president of Salvatierra, Guanajuato, to prevent the destruction of the stone and masonry bridge near Salvatierra, as it is a notable piece of work of colonial times, and as it was also the scene of memorable events in the war of the independence. The church of San Antonio Tomatlan is also to be cared for by this branch of the Government. It is a fine example of ecclesiastical art, though it has suffered severely.

MEXICO IS INVITED TO MEDICAL CONFERENCE.—The Second South American Congress of Dermatology and Syphilography is to be held in Montevideo, and Mexico has been invited to send her scientists, though the congress is supposed to be a South American one.

CHILD-WELFARE CONGRESS.—The first child-welfare congress was held in Mexico City in January and was attended by welfare workers, physicians, and lawyers, as well as a few delegates from other American countries. The congress was divided into six sections—medical pediatrics, surgical pediatrics, eugenics, child legislation, education, and child hygiene. The proceedings of the congress on legislation demanded the regulation of industrial child labor, the establishment of juvenile courts, of agencies for the protection of children, and for the home visiting of expectant mothers, proper medical service, milk stations, schools for mothers, and properly conducted homes and asylums for infants and older children. The proceedings on education showed advanced ideas, as in addition to such problems as kindergartens, school lunches, and the instruction of abnormal children, consideration was given to the physical and mental classification of children, the use of chemistry in the care of the child,

the esthetic education of the child, and the introduction into the public school curriculum of puericulture, and the practical teaching of habits of hygiene. The second child-welfare congress of Mexico is to be called in January, 1923.

NICARAGUA.

X-RAY TREATMENT FOR POOR PEOPLE.—The Government has contracted with Dr. L. Burgheim to establish an X-ray station in the country at which free treatment will be given to those unable to pay. Treatment will also be given free for syphilitic cases at the expense of the Government.

HEALTH CERTIFICATE NECESSARY FOR ISSUANCE OF MARRIAGE LICENSES.—The governor of the department of Managua has announced that hereafter he will issue no marriage licenses to men who do not present a physician's certificate to the effect that they are in perfect health. This does not apply to women except in cases which seem to require it.

GERMANS TO BUILD ROADS AND COLONIZE LAND.—The agent of powerful foreign corporations is negotiating to secure contracts to macadamize and lay asphalt in the streets of Managua, Granada, Leon, Chinandega, Masaya, and Nandaime, and to build concrete roads connecting the interior with the Atlantic coast. The contracting corporations are to be granted 1,000,000 hectares of land on the Atlantic side, and are to bring 5,000 German families to colonize the land. Congress is to deal with this important concession at its next session.

PANAMA.

ROAD CONSTRUCTION IN PROVINCE OF LOS SANTOS.—The Province of Los Santos, which is a rich and exceedingly fertile section of the Republic, where thousands of acres of open country await development, is soon to have a good system of public highways. According to a report of the engineers who have recently carefully examined the routes planned, this Province has large quantities of rock suitable for road construction, but is somewhat deficient in a good quality of binding material. The chief engineer of the central road board (Junta Central de Caminos) proposes to build a permanent type of highways of a class that will require a minimum outlay for maintenance and repairs. Construction work will be commenced on the road from Mensabe to Las Tablas, a distance of about 100 kilometers, in the near future, and will be pushed to completion as soon as possible. Rock crushers and other necessary equipment are already on the ground or are en route, and the raw material is at hand for their immediate utilization. Dr. Belisario Porrás, President of the

Republic, is a strong advocate of adequate road construction, and the Government is heartily cooperating in the work.

ROTARY CLUB.—The Rotary Club of Cristobal Colon recently received a charter from the International Association of Rotary Clubs and is now affiliated with that organization.

PARAGUAY.

BOY SCOUTS.—The Paraguayan Boy Scouts recently made a trip to Uruguay under the auspices of the Paraguayan Government.

TYPOGRAPHIC SOCIETY.—The First American Congress of Bibliography and History, which met in Tucuman, Argentine Republic, in 1916, has just awarded to the Typographic Society of Asuncion a diploma and prize for the work entitled "La Prensa Paraguaya" (The Paraguayan Press). This work is a complete history of newspaper development in Paraguay from the colonial period to the present time.

PERU.

CENTENARY COMMITTEE.—A committee has been appointed to plan and carry out the public works to be constructed for the centenary celebration in the city of Tarma.

PERU-BRAZILIAN BOUNDARY.—The commission to mark the Peru-Brazilian boundary left Lima for eastern Peru. The commission will proceed via Yessup and Puerto Bermudez to Masisea, where they will meet the gunboat *America*. From that point the commission will go to Iquitos and Manaus and from Manaus up the Purus to Senna Maguireira, the advance headquarters of the commission. Here they will meet the Brazilian commission and divide into four parties. One party will remain in Senna to send nightly messages by wireless. The second party will explore the Yacu, making a junction in the forest with the line of the Shambu-Yacu already delimited. The third party will explore the Chandless and connect with the Yacu line. The fourth party will explore the Acre from the Peru-Bolivia frontier, already fixed, to its source, and then meet the Chandless. Astrolabes will be used for astronomical observations and longitude will be obtained by the comparison of chronometers with signals sent out by a pendulum beating forty-nine-fiftieths of a sidereal second. Parties making this trip have previously gone up the Amazon via Panama and Para.

MEASURE FOR LOWERING FOOD PRICES.—A resolution passed March 8 provides for the free storage of foodstuffs in the fiscal warehouses of Bellavista for four months from the date of the resolution, the only charges to be for unloading and for moving the commodities when wanted by the owners.

INCA MUSIC.—An extremely interesting concert of Inca music, collected by the two performers, was recently given in the Universidad Popular. Quenas, the Indian flutes used by the Incas, were the instruments on which the music was played. At the close of the concert there was a lecture on Inca music. The lecturer spoke of the two characteristic forms, the yaraví and the cashua, and described the religious and festival dances of the natives of Cuzco, which form traditional satires on the Spaniards and their customs.

SALVADOR.

HIGHWAY FROM SAN SALVADOR TO THE TOLUCA BEACH.—A highway has been opened from the city of San Salvador to the Toluca Beach, passing through the towns of Planes de Renderos, Panchimalco, Rosario de Mora, Palo Grande, and Hacienda de Santa Barbara, joining the highway from Zacatecoluca to La Libertad.

REESTABLISHMENT OF THE LIBRARY.—One of the civic improvements which the municipality is to undertake is the reopening of the municipal library, which was closed over two years ago on account of a fire which burned down the city hall.

MEXICAN SPECIAL MISSION TO SALVADOR.—The Mexican special mission to the Government of Salvador, headed by the Mexican poet, Señor D. Juan B. Delgado, was entertained by the President of Salvador. The mission came to Salvador to bring the thanks of the Mexican Government for Salvador's official representation at the inauguration of President Obregon of Mexico.

URUGUAY.

DELEGATE TO THE INTERNATIONAL COMMISSION OF THE RED CROSS.—The President appointed as delegate to the Tenth International Conference of the Red Cross, held in Geneva on March 30, Dr. Alfredo de Castro, acting chargé d'affaires of Uruguay in Switzerland.

ENFORCEMENT OF PROHIBITION.—A decree has been issued whereby authorization is given to exact the payment of fines for infractions of the law of prohibition within 24 hours after the offense, and if the offenders have not in that time paid the fine exacted by the law, they shall again be brought before the court and committed to prison.

VENEZUELA.

NEW NEWSPAPER.—El Sol, a new daily newspaper of Caracas, issued its first number on February 20.

PETROLEUM.—The Government by its laws and otherwise encourages foreign capital to acquire petroleum concessions. By law the Federal Executive is authorized to grant exploration permits and to execute exploitation contracts, and the Government, through the Executive, desires contracts with responsible companies that will proceed immediately with development and exploitation work.

The exploitation of all hydrocarbons is now authorized under a law of June 19, 1920. Permits are limited to tracts not exceeding 10,000 hectares, and not more than six permits can be given to one person. On the discovery of deposits the exploration tract is divided into plots of 200 hectares, and the discoverer is given a tract for the exploitation of the deposits discovered. Both permits and exploitation contracts may be acquired by any resident, alien, domestic, or foreign corporation qualified by law, and both permits and exploitation contracts may, with the consent of the National Government, be assigned to such persons or corporations, foreign countries and States alone excepted. Exploitation contracts may be forfeited on well-established legal grounds, and in most instances shall be declared by the Federal Court of Cassation in a contentious litigation, but there is no provision looking to the confiscation of the property erected on a concession.

For want of transportation facilities, concessions and their development are confined principally to the territory bordering Lake Maracaibo, and concessions have been granted for about 75 per cent of the land immediately around the lake. British and American companies are active in this territory, and in 1920 there were eight completed wells at an average depth of 1,200 feet, producing about 6,000 barrels a day. Four wells of a British corporation have a daily capacity of from four to five thousand barrels. An American company has acquired five concessions in the State of Falcon, and a representative of a new American company is seeking five-year concessions in Southeastern Venezuela. Natives have taken up many concessions without any intention of operating, but with a view of selling to foreign companies.

There is but one refinery having a capacity of 3,000 barrels a day, and the output is limited to local consumption. A company which operates a large refinery on the island of Curacao transports for its refinery the crude petroleum from the producing fields in barges through Lake Maracaibo.



SUBJECT MATTER OF CONSULAR REPORTS

REPORTS RECEIVED TO MAY 7, 1921.

Subject.	Date.	Author.
ARGENTINA.		
Annual report on commerce and industries of the district of Rosario for 1920.	1921. Feb. 16	Wijbert L. Bonney, consul at Rosario.
Cereal prices for January.....	Feb. 19	W. Henry Robertson, consul general at Buenos Aires.
Extracts from "Report on general conditions prevailing in Argentina during February, 1921."	Mar. 1	Do.
Export taxes for the month of February.....	Mar. 8	Do.
BOLIVIA.		
Certain changes in Bolivian tariff.....	Mar. 14	W. Duval Brown, consul at La Paz.
Market for musical instruments.....	Mar. 31	Do.
BRAZIL.		
Market for musical instruments in Bahia.....	Mar. 4	Thos. H. Bevan, consul at Bahia.
New steamship line to connect port of Para with Genoa, Italy....	Mar. 5	Geo. H. Pickereil, consul at Para.
Imports of merchandise from other countries exclusive of the United States for December, 1920.	Mar. 7	Do.
Foreign imports of merchandise at port of Para, for the month of January, 1921.	...do....	Do.
Rubber statistics for February, 1921.....	Mar. 8	Do.
Market for musical instruments in Para.....	Mar. 9	Do.
The market for paints and varnishes.....	...do....	Thos. H. Bevan.
Brazilian centennial, 1922.....	Mar. 11	A. T. Haeberle, consul general in charge, Rio de Janeiro.
Exports of oil nuts and fruits producing oil from Brazil during the past five years.	Mar. 14	Geo. H. Pickereil.
Information regarding the production from "ananga" of cellulose for the manufacture of linen paper.	Mar. 18	Do.
CHILE.		
Report on commerce and industries for February, 1921.....	Mar. 7	C. F. Deichman, consul general at Valparaiso.
Amendment to customs tariff of Chile.....	Mar. 10	Dayle C. McDonough, consul at Concepcion.
Market for paints and varnishes.....	Apr. 1	C. F. Deichman.
COLOMBIA.		
The market and production of milk and butter in department of Bolivar.	Mar. 9	E. C. Soule, consul at Cartagena.
Water-power resources and water-power projects.....	Mar. 10	Edmund B. Montgomery, vice consul at Barranquilla.
Report on the department of Magdalena.....	Mar. 15	Leroy R. Sawyer, consul at Santa Marta.
Shipments of sugar from Colombia.....	Mar. 18	E. C. Soule.
Market for paints and varnishes.....	Mar. 19	Edmund B. Montgomery.
Report on the commerce and industries for February.....	Mar. 31	Do.
Colombia as a source of fiber supply.....	Apr. 4	Do.
CUBA.		
Steamship liner services.....	Mar. 20	Harold D. Clum, consul at Santiago de Cuba.
Incorporation and corporation taxes in Cuba.....	Apr. 5	Carlton Bailey Hurst, consul general at Habana.
Declared exports for March quarter, 1921.....	...do....	Charles Ferman, consul at Nueva Gerona.
Declared exports to the United States.....	Apr. 6	Frank Bohr, consul at Cienfuegos.
DOMINICAN REPUBLIC.		
Economic notes.....	Mar. 22	W. A. Bickers, consul at Puerto Plata.
Municipal purchase of electric plant.....	Apr. 11	Do.

Reports received to May 7, 1921—Continued.

Subject.	Date.	Author.
ECUADOR.		
Law relative to apothecaries' shops and drug stores.....	1921. Jan. 17	Frederic W. Goding, consul general at Guayaquil.
Commerce and industries for February, 1921.....	Mar. 10	Do.
Market for musical instruments.....	Mar. 15	Do.
Transfers of real estate in Ecuador.....	Mar. 20	Do.
Foodstuffs permitted to be exported from Ecuador.....	Mar. 29	Do.
HAITI.		
Regulation governing the importation of live stock from the United States.	Mar. 31	Avra M. Warren, consul at Cape Haitien.
MEXICO.		
The market for paints and varnishes.....	Mar. 15	G. R. Willson, consul at Matamoros.
Electric current and central power stations.....	Mar. 30	A. J. McConnico, consul at Guadalaajara.
Report on jewelry samples entering Mexico.....	Apr. 1	Paul H. Foster, consul at Vera Cruz.
The market for water-softening apparatus.....	Apr. 7	A. J. McConnico.
Market for American millinery.....	Apr. 16	Wm. P. Blocker, consul at Piedras Negras.
NICARAGUA.		
Monthly report on commerce and industries.....	Feb. 26	Henry S. Waterman, consul at Corinto.
Market for paints and varnishes.....	Mar. 13	Do.
PARAGUAY.		
Argentina to open vice consulate at port of San Antonio.....	Feb. 21	George E. Seltzer, vice consul at Asuncien.
Economic situation in Paraguay.....	Mar. 1	Do.
Traffic movement on the Paraguayan Central Railroad.....	Mar. 3	Do.
Insurance companies in Paraguay.....	Mar. 4	Do.
PERU.		
Development of Peruvian cattle and grazing industry.....	Mar. 16	James H. Roth, consul in charge, Lima and Callao.
Exports during the month of January from port of Callao.....	Mar. 19	Do.
Amendment to Peru's child labor law.....	Apr. 7	Do.
SALVADOR.		
Market for musical instruments.....	Mar. 8	Lynn W. Franklin, vice consul at San Salvador.
The entry of gasoline.....	Mar. 31	Do.
Notes: Crop conditions—Insurance.....	Apr. 1	Do.
VENEZUELA.		
Coffee shipments from port of Maracaibo for February.....	Mar. 3	Dudley G. Dwyre, consul at Maracaibo.
Second section of annual report on commerce and industries for 1919.	Mar. 12	Do.
Market for water-softening apparatus.....	Mar. 31	Do.



BOOK NOTES

[Publications added to the Columbus Memorial Library during March, 1921.]

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